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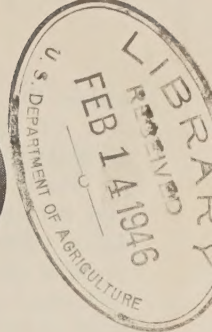
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Electro-Economy SUPPLEMENT

number

1



DEVOTED TO MAKING COOPERATIVE ELECTRICITY PAY ITS WAY

PUBLISHED BY THE RURAL ELECTRIFICATION ADMINISTRATION—UNITED STATES DEPARTMENT OF AGRICULTURE

DEFENSE FOODS NEED REA POWER

To REA Systems:

Electricity is a valuable resource essential to national defense. Because it may be necessary for users of electricity for nondefense purposes to reduce their consumption of power, even at the sacrifice of personal convenience and financial returns from their businesses, I want to urge American farmers to see that every kilowatt-hour of electricity which they use makes its contribution to our national defense efforts.

Electricity has proved its worth as an efficient tool in agricultural processes and in the farm home. Wisely used, it can increase our usable supplies of the very things which we most need in this time of national emergency.

The defense program is creating many new responsibilities and new problems for American farmers. Chief among the new responsibilities is the effort to answer the call for increased production of milk, meat, eggs, tomatoes, dry beans, and other needed products so that we may provide adequate amounts of these vital supplies for our own people as well as for the democracies resisting aggression. On the other hand, farmers in some parts of the country are handicapped in reaching full production by labor shortages. The need for metals for defense is also beginning to create demands for farm machinery and equipment which cannot always be filled.

The Department has been doing its best to secure full recognition of agriculture's important position in the defense program. As a result of our efforts, Washington headquarters of the Selective Service System has instructed State Directors to notify local boards in areas where farm labor is short that careful attention should be given to the deferment of essential farm labor. The WPA has called attention to the fact that its regulations are drawn so as to facilitate the acceptance of farm jobs by WPA laborers. Currently, steps are being taken to present the needs of agriculture to those responsible for the proration of metals in an effort to secure sufficient raw material for the manufacture of necessary farm machinery and equipment.

Other representations are also being made in behalf of agriculture, including the need for full recognition of the importance of the Rural Electrification Administration program. The Department holds that REA's requirements for power and materials should be supplied to the fullest possible extent so long as they can justifiably be filled without slowing down our more vital defense needs. We recognize that on many electrified farms a supply of electric power is essential to speeding up production of food for defense. We plan to exert every effort to keep the REA construction program moving as fast as is warranted by REA's participation in our defense effort. We shall make every effort to assure ample supplies of electricity at wholesale rates for the REA system.

At the same time, we should all recognize that, with the need for expediting armament production growing more pressing every hour, the time may come when it will not be possible to carry on our full REA program. With a situation like this, farmers on REA lines will, I am sure, recognize their parallel obligation to apply properly the electricity made available to them under the existing conditions of present and impending shortage.

CLAUDE R. WICKARD, *Secretary*
U. S. Department of Agriculture

Better Diets on Farms, Defense Aim

Food for our farms, food for our cities, food for the other democracies resisting aggression, is the 1941 challenge to the farmers of America. Once again all hands are needed to meet the demands of Food-for-Defense.

But we need good food. In normal times we get by with underfed and poorly fed, inefficient people. But in times of crisis we need people both young and old who are mentally alert and physically strong. The fact is that one-third of our entire population has been and is living below the nutrition safety-line, while another third, because of inadequate diet and lack of available food, is denied foods with proper vitamin and mineral content. Each year we in the United States, the land of plenty, need to consume 5 million tons more tomatoes and citrus fruits, 2½ billion gallons more milk, 4 million tubs more butter, 35 million cases more eggs, and double our present consumption of green leafy and yellow vegetables. Electricity on the farm can play a great part in producing this added quantity of vital foods.

Own Family Comes First

To the farm woman this means her own family must first have the foods which make up an abundant and well-balanced diet. Her next responsibility is to conserve all surplus foods either for the future needs of the family, or as a quality product for the markets of the Nation. She may even need to lend a hand with the production of extra foods for the Nation's stores. This added responsibility

makes the farm home a production unit for national defense. In the electrified farm home, the task will be easier. Electricity provides the best help possible for getting the job done. The help which comes with running water, electric refrigeration, cooking, laundry, and cleaning equipment, is always ready.

Electric equipment in the kitchen makes it easier to produce three good meals each day, with a saving of time and effort. The farm home refrigerator keeps the needed supply of milk for the family sweet and appetizingly cool. Fruits and vegetables, kept fresh in the refrigerator, contribute their food elements to the family's health and strength. In addition, the

We have a job to do. You, and I, and everyone. Our job is this: To make America strong . . . Defense is planes and guns. It is equipping an army to man our military weapons. It is this, and more. It is building the health, the physical fitness, the social well-being of all our people, and doing it the democratic way. Hungry people, undernourished people, ill people, do not make for strong defense . . . This, then, is our job; not all of it, but a vital part. Let us make every American strong, stronger than ever before, sturdier in body, steadier in nerves, surer in living.

HARRIET ELLIOTT
Associate Administrator
Office of Price Administration.

refrigerator saves money by providing safe storage for left-over and surplus foods to be used in other meals. Eggs, cream, and other farm food products can be stored and marketed at higher prices as quality foods.

The automatic temperature and time controls on electric ranges, roasters, and portable ovens free the farm woman from her stove. She can prepare the food, set the timer and temperature control; go about the work of tending the garden and chickens, helping the men in the field, darning the children's clothes, or just taking it easy, with the assurance that well-cooked food will be ready at meal-time.

OSCAR W. MEIER, Head
Co-op Education Section, REA

Hen-House Lighting Speeds Production of Needed Egg Supply

Agriculture Secretary Claude R. Wickard, recently announced that American egg production should be increased by 10 million cases during the next few months in order to assure an ample supply for our country and other nations needing our foodstuffs. Here is a job for rural electricity.

As the days become shorter this fall, many REA co-op members will begin using artificial lighting to lengthen the working day of their hens. They know that fall and winter eggs not only bring better prices but are less likely to spoil because nature cools them. And egg prices will be higher this fall and winter than a year ago. In the total picture, the thousands of small flocks will really add much to our egg production in order to meet the demands of Food-for-Defense.

Now that low cost electric service is available to so many REA members, it is easy to install hen-house lighting at little expense. If your hen house isn't wired for lights, do it now and be prepared for fall and winter.

Hen-house lighting equipment may be arranged in one of three ways to increase the working day of the hen:

(1) All-night lights, (2) evening lights, or (3) morning lights. All three systems produce good results. The first is considered by many to be the simplest and most satisfactory, particularly for only a few chickens. The second is particularly favored by those who find it necessary to feed scratch grains after dark. The third is an automatic method of providing a desired number of working hours per day for the hen, 13 hours being recommended.

Lights Help Profits

Putting lights on your hens and lengthening their working day is not a 100-percent cure for the nonproductive hens. But when artificial lighting is added to good feeding and management practices, profitable results can be reasonably expected.

The manager of your REA co-op will help you plan your hen-house lighting and also help you get the necessary materials and labor for a good safe job at the lowest possible cost. Since the cost of lights is so little, start now to put electricity to work on your farm, in the hen house.



MILK

We Americans need to drink 2½ billion more gallons of milk each year. In addition we need to step up milk production to supply dried milk, cheese, etc., to the British defenders of democracy. Much of the needed milk is already being produced, but because of poor cooling it spoils before it is used. Spoiled milk is fed to hogs or sold as low grade fat for soap, instead of building sturdy human bone and muscle. Many REA farmers have cut much milk spoilage through electric cooling. Electricity also enters into many other processes of milk production—feed grinding, water pumping, milking machines, bottle washing, sterilizing. Finally, because cool milk tastes better, farm families with electric refrigerators are likely to drink more milk.

FALL GARDENS

It may be too dry to sow wheat, vetch, or other fall-sown field crops, and it may be too dry to plant the fall snap beans, turnips, radishes, potatoes, and lettuce, but why wait for a good rain to start these garden crops? Just tap onto your electrically operated household water system and "make your own rain" in the garden.

A little pipe, rubber hose, and a rotary sprinkler will do the trick at a cost of less than \$8.00. A good turnip crop alone is worth more than this. Turnips that the family cannot eat make excellent cow and hog feed. During a dry fall there is always a market for fall turnips and other vegetables.

The electric pump will put an inch of water on a quarter-acre garden with energy consumption costing about 25 cents, and will do the job at night while the family is asleep. Proper installation is quite simple, but it is important to match the sprinkler size to the pump size. Your REA co-op manager has a simple guide which will help you plan and install your garden water system.

Good fall gardens and a longer growing season for vegetables mean a bigger food supply next winter.

Homemade Electrical Equipment Cuts Costs, Builds Income

Grind your own feed at home the electric way. Do it automatically by installing a supply bin and let your electric motor do the rest. Why waste time in hauling grains to the mill or take time out from other work to scoop and sack grains with ground feeds? The manager of your co-op will be pleased to help you plan a home grinding system most suitable for your needs. Stop in and see him.

Home Mixed Feeds

Mixing feeds on the floor with a scoop has always been a dusty, irksome job for the farmer. Ready-mixed feeds have been widely accepted as a solution, but now electricity brings a cheaper and better one. A homemade feed mixer can be built for about \$17. It provides the advantages of cheaper and better feeds, using home-grown grains and concentrates used in floor mixing, but eliminates the dust, the waste, the drudgery. Furthermore, it mixes 300 pounds in 2 or 3 minutes.

Get your free copy of the *Electric Feed Mixer*, another in the Make-It-

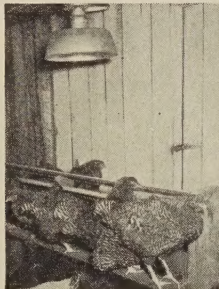
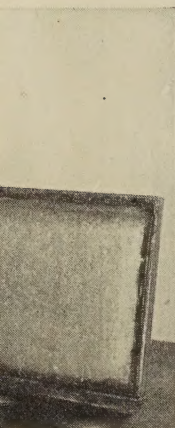
Yourself series, at the office of your co-op. By means of illustrations and detailed instructions, it describes how you can build an efficient mixer.

Motor Has Many Uses

Use your electric motor this fall to help in harvesting and fall planting. It will supplement the work of the horses or mules by running the hay hoist, the grain elevator, or the hay baler. It will relieve the tractor by operating the ensilage cutter, the hay chopper, the grain elevator, the feed grinder, and the wood saw. It will reduce chore-time by milking the cows, pumping water, shelling corn, mixing feeds, or sharpening tools. It will clean seeds for planting, mix fertilizers, and treat seeds for diseases. It will take the place of a hired hand and will work either fully automatic or at the touch of a button.

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Farm labor may be scarce and thus wages high this fall, but electricity is cheap power looking for a job on your farm.



EGGS

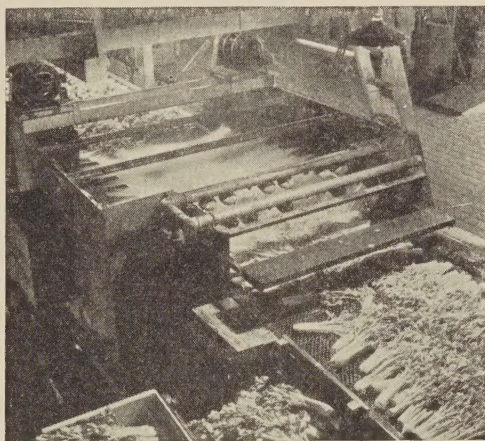


In every stage of the process—from hen to grill—electricity is used in egg production. Hen-house lighting stretches the hens' working day; eggs are candled, weighed, and graded electrically; electric refrigeration keeps them fresh; and electric stoves cook them. With the growing demand for eggs, a large number of REA farmers are increasing their cash income by poultry lighting and by raising many healthy chicks in electric brooders.



VEGETABLES

Recent investigations into our diet habits reveal a great need for more carrots and turnips, spinach and lettuce, and many other green, yellow, leafy vegetables. To bring our annual consumption of these fresh foods to a more satisfactory level means larger production. REA farmers learn that garden watering increases productivity of their gardens. Many marketing co-ops now use REA power for cold storage, fast freezing, and vegetable-curing plants. Vegetables saved from spoiling is equal to increased production.



REA HOMEMAKER

For efficient refrigerator operation, clean the condenser about twice a year. Before cleaning the condenser, disconnect the refrigerator so that it cannot operate while the cleaning is being done. To get at the condenser it is necessary to remove the front or back panels at the bottom of the refrigerator. Also, it may make it easier to do the job if the refrigerator is moved away from the wall. Either a small stiff brush or the vacuum cleaner should remove all the dirt quite effectively.

Two Ice Cream Recipes

Cool, frosty ices and nutritious ice creams provide variety in meals. Frozen desserts using the home-produced cream, milk, eggs, and fruits add calcium, phosphorus, iron, and vitamins necessary for health. Here is a basic recipe for ice cream.

- ½ cup sugar.
- ½ cup light corn sirup.
- 4 eggs.
- 2 cups top milk.
- 2 cups light cream.
- 2 teaspoons vanilla.

Fresh fruits added after the mixture has been partially frozen and whipped add food value and variety.

Uncooked base.—Beat the egg whites until stiff, add one tablespoon of sugar for each white, beating to a meringue. Add yolks, sugar, and sirup to the milk and cream, beat until well blended, and then fold in the beaten whites. Pour into freezing tray. Set cold control to coldest position for freezing. Freeze mixture to mushy stage. Remove to chilled bowl, and beat until light and creamy. Return to tray and finish freezing.

Cooked base.—Scald the milk with the sugar and sirup, using low heat or double boiler. Add slightly beaten egg yolks to the hot milk. Continue to cook, while stirring, until it "coats a spoon." Remove from heat, chill, add cream, and then fold in beaten egg whites. Add vanilla. Then follow directions given above for freezing.

Waffle Iron Uses

Your waffle iron can be a big help in summer cooking. It will bake the batter for shortcake, chocolate brownies, gingerbread, and corn bread, to name a few items, and it will also eliminate the necessity of heating the oven for hot breads or the baked portions of desserts.

Egg Co-ops in Spotlight

The increasing need for eggs during the next several months brings the many egg co-ops into the spotlight for they will play an important part in meeting the demands of Food-for-Defense.

More than 104,000 farmers, organized in 181 co-ops, do an annual business of 76 million dollars in eggs and poultry, the Farm Credit Administration reports. But more than half of this business is done by co-ops in California, Washington, and Utah while some Southern States have none.

For REA members, electricity makes it easy to speed production of high-quality eggs. In fact, many members, through membership in the egg co-ops, will increase their cash incomes considerably this fall and winter. Their eggs will be graded and marketed by these co-ops to assure the highest prices.

DID YOU KNOW?

The U. S. farmers' co-op movement is over 70 years old.

There are now over 10,000 farmers' marketing and purchasing co-ops with over 3 million members, doing a yearly business of 2 billion dollars.

There are now nearly 800 REA co-ops operating 300,000 miles of high-line to serve 750,000 members.

In 6 years REA has loaned a quarter billion dollars to build member-controlled electric systems.

These co-ops will be owned by the members when the loans are repaid.

Most REA members use co-op electricity to cut costs, increase income, provide better living.

Your REA co-op is a nonprofit, service organization. Its success depends upon your active support.


HOT WEATHER ELECTRO-ECONOMY



THIS REA APPROVED
PORTABLE SPRINKLER UNIT
—BUILT AT HOME FOR \$2.85
PLUS COST OF HOSE

409% PROFIT
FROM
GARDEN WATERING

EIGHT VIRGINIA FARMERS RAN AN
IRRIGATION TEST ON THEIR
¼ ACRE KITCHEN GARDENS. ON AN
INVESTMENT OF \$10 THEY GROSSED AN
AVERAGE OF \$41 MORE IN VALUE OF
CROPS THAN ON UNWATERED PLOTS



ICE CREAM
IS GOOD FOOD. EAT IT
OFTEN AND MAKE IT AT
HOME ON YOUR ELECTRIC
REFRIGERATOR



ELECTRIC FENCING—THE QUICKEST,
CHEAPEST WAY TO BUILD NON PERMANENT
PASTURE FENCES FOR CROP ROTATION

Electro-Economy SUPPLEMENT

number

2

DEVOTED TO MAKING COOPERATIVE ELECTRICITY PAY ITS WAY

PUBLISHED BY THE RURAL ELECTRIFICATION ADMINISTRATION—UNITED STATES DEPARTMENT OF AGRICULTURE

WIRED HELP SAVES HIRED HELP

NEW MILLS MAKE BETTER FLOUR

Better bread for farm families at lower cost is possible through a newly developed kitchen-size electric flour mill demonstrated before the President's recent National Nutrition Conference. The new-type mills save vital wheat substances lost in ordinary milling processes and at the same time permit farmers to grind home-grown grain at a great saving.

The farmer who sells wheat for 80 cents a bushel and buys back the flour for \$2 is actually paying more than \$1 a bushel to have the most valuable part of the whole grain removed. Whole-wheat contains vitamin factors which help to prevent nervousness, fatigue, and digestive disorders.

Enriched Flour Not Enough

For more than a century, nutrition experts have protested our giving the best part of the wheat grain to livestock. Many commercial millers now fortify white flour artificially to replace some of the lost vitamins, but leading authorities, including Dr. John R. Murlin, of the University of Rochester, insist that all factors are saved only by producing whole-wheat flour.

Fortunately for the people who from taste or habit prefer white bread, flour ground at home by the new process is almost as white and tastes nearly the same.

Schools to Install Mills

Many rural schools throughout the country are planning to install the new mills in connection with school lunch programs. Since school mills become a part of the community, farmers in the neighborhood can grind flour from their own grain.

In connection with the current emphasis upon "food-for-defense" it is interesting to note that the German people have been required to eat whole-wheat bread for several years. Nutritionists believe that the practice has increased consumption of thiamin, the "nerve" vitamin, enough to correct what is called "the biggest problem of modern civilized diets."

Electricity is a great force. It is an essential of good management in most rural endeavors. Problems of farm production, efforts to improve farm living standards, and various undertakings of rural communities, all requiring good management and advanced techniques, are dependent upon electricity.

These applications of electricity to bring about social and economic gains for the individual and the community is electro-economy.

But the practice of electro-economy benefits more than just the individual and the community—it benefits the Nation.

Today this is important, for it means the Nation can have more milk and eggs, more meat and vegetables, for the citizens of our cities and rural communities, as well as for the citizens of other democracies. It means that farm families can have more and better food to eat themselves.

This is food for defense, so essential to the welfare of our country now. The practice of electro-economy on REA farms is a sure way to meet the demands of food for defense.

Harry Slattery
Administrator, REA

Cuts Working Time 4 Months Per Year

Electricity, the farm labor-saver, can eliminate 4 months' work a year of one man on the average farm, according to agricultural experiment station reports. Electricity is no cure-all, but when utilized to the fullest extent it will do a lot more than many of us realize.

Take a farm of 120 acres, having 16 milk cows, plus usual livestock and crops. Putting electricity to work doing chores and harvesting on this farm will save 124 ten-hour working days each year. Here are some of the ways it is done.

Adequate lighting alone saves 1½ hours a day by providing daylight for the chores. A recent survey of several hundred farms in 40 States showed 3½ hours were spent on chores on un-electrified farms compared to 2 hours on farms with electricity.

Cuts Time in Half

An electric milking machine for the herd of 16 cows cuts milking time in half, a saving of 60 hours per month. On larger herds of 35 to 50 cows, the milking machine will save all the time of one man.

Hand separation of cream from the 40 gallons of milk takes at least a half hour a day, or 185 hours a year. An electric separator will operate while the milking is being done—and so, the 185 hours are saved.

Operating the hay hoist with a semiautomatic electric motor releases the full time of a man and tractor or team. Thirty tons of hay are harvested each year, so an extra week's work is eliminated. In silo filling, the same electric motor will cut the time necessary to do the job by a day.

The heavy motor is mounted on wheels and can be quickly rolled about the farm from one machine to another. By using it for feed grinding, feed mixing, wood sawing, grain elevating, and many other tasks, the farmer can release a man or tractor for other work. In addition, home grinding and mixing of feed saves time otherwise spent in loading and hauling to and from the mill, to say nothing of the time wasted while waiting for the grain to be ground.

Electricity Is Faster

Almost every electrically operated appliance works faster and with less attention than hand-operated appliances. A small portable motor will save time in corn shelling, mill fanning, fruit or vegetable grading, green feed chopping, sausage grinding, or churning.

When a machine breaks down on a job, repairs must be made at once. Sending the machine away to be repaired frequently means a delay of a day or two. In contrast a well equipped electrified farm shop cuts the interruption in many cases down to an hour or so. The portable motor operates such tools as drill press, forge, lathe, mechanical saws, grindstone, and emery wheel.

Ninety Hours Saved

Electricity saves 90 hours a month in 4 home chores alone. Washing and ironing time is cut 35 hours a month; house cleaning takes 30 hours less; cooking with an electric range saves 5 hours over other type stoves; and 20 hours are saved by pumping electrically the water used in the house. Similar savings can be shown in many other household tasks—after electricity comes.

Household savings in time are important since the farm woman can put the hours to use in caring for the garden, the chickens, and other farm chores, especially during rush seasons or when labor is scarce.

D. W. TEARE, *Head Farm Equipment Tour*

Dan Teare has made two major contributions to the REA program: He conceived and is the director of the Farm Electric Equipment Tour, and is the founder and chief sponsor of the working philosophy "Electro-Economy." The savings he describes here may suggest ways you can save time on your farm. The manager of your co-op will be glad to help you put them in practice.

South Carolina Food Plan Brings New Health and Wealth

By reverting to the type of self-sufficient farming practiced by their grandfathers a group of South Carolina farmers have discovered new health and happiness.

A couple of years ago this group began to reverse the trend of American farm families of raising more and more cash crops exclusively and buying an increasingly larger part of the food they eat. With the aid and encouragement of the State Extension Service, these farmers agreed to raise at least 75 percent of their own food requirements as part of a better farm living program.

New Foods Added

To the customary meat, meal, and molasses, they added milk and other dairy products, eggs and poultry, green, leafy, and yellow vegetables, tomatoes, whole-wheat flour, and many fruits. It so happens that electricity is most useful in the production of these foodstuffs. Many of these farmers found that raising crops for home use was far easier with the help of electricity.

Almost immediately after the program got under way the families were

healthier and happier. And, equally important, they had more money available for other things. Other farmers soon caught on to the idea. It spread like a wildfire until today thousands of families throughout South Carolina are raising most of their own food—many of them with the help of electricity.

POWER AT WORK

Even though many types of farm equipment have been given national defense priorities rights, farmers may soon find it difficult to get prompt delivery of certain machinery. Inconvenience and difficulty in obtaining many kinds of equipment can be reduced through full use of home-made electrical equipment, constructed largely from wood and used material. Your co-op office has several folders describing how to make such equipment. They are free for the asking.

Motor Cleans Seed Better

Planting the best variety seed of a high germinating content means a higher yield at harvest time. Clean

seed, free of trash which is likely to clog the drill openings, further insures a higher yield because of even seeding.

Fanning and screening the seed is a slow, tiresome job when done by hand. But a small portable motor attached to the fanning mill will do a more efficient job in a fraction of the time. It will even do the job automatically if a small bin is placed above the grain hopper so the grain is fed through at the proper speed.

Repair Old Machinery

New machinery may be necessary to keep pace with increasing demands for farm production. But by improving the efficiency and dependability of existing machinery it may not be necessary to buy new units. A small portable electric motor in the farm shop will make home repairs easy and economical and, at the same time, add years to the life of old, little-used machinery.

Drinking Cups in Barn

Milk is 87 percent water. Get your cows to water their own milk—install an automatic water-pressure system with individual drinking cups in your barn.

V. L. GREGG, *Farm Equipment Specialist, REA*

Fall Brooding Will Increase Poultry Supply for Defense Markets

Fall brooding serves a double purpose of increasing poultry income and adding to the Nation's stores of needed foods. On many REA farms brooders and brooder houses are already available. No additional investment is required to raise a late summer or early fall brood of winter broilers or spring layers. Fall brooding is in line with the recommendation of Agriculture Secretary Wickard, who has repeatedly stressed the need for more eggs and poultry to meet an expected demand next winter and spring.

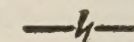
From August to October newly hatched chicks sell for bargain prices. Warm-weather brooding is simplified with the automatic electric brooder, and the automatic feature reduces operating costs far below those for other heat sources. In the northern parts of the country, however, some caution is necessary in transferring young chicks from brooders during very cold weather.

Late winter and early spring broiler prices are generally the highest of the year. In addition, winter broilers provide welcome variety to winter

diets on a great many electrified farms.

Even if he does not raise another brood, a farmer can use his brooder house advantageously by wiring it for night lights. The older hens normally sold to make room for the new pullets, can be made to "come back" and lay a good many eggs. Since these eggs are full size, this application is worthwhile despite the somewhat lower production per hen. Careful culling will retain the better layers and dispose of the rest.

Thousands of REA members who have electric brooders and night lights in their hen houses are prepared for fall brooding and increased egg production. The manager of your co-op has detailed plans showing how electricity will increase poultry profits at low cost, including instructions for building at home the REA "Make-It-Yourself" electric brooder with capacity for 150 chicks.



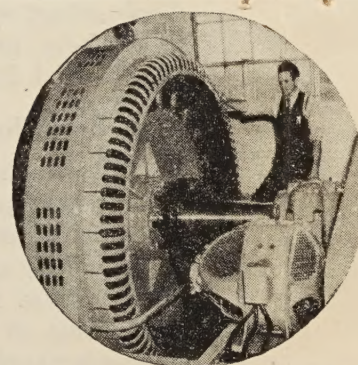
Take your hens off union time and put them to work 16 hours a day with electric night lights in the hen house.



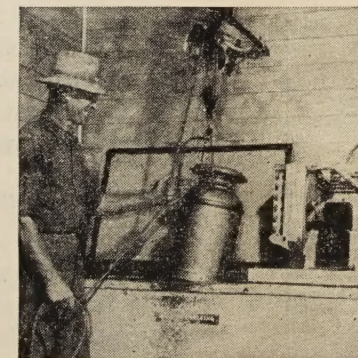
REA-powered cold storage locker co-op, at Staunton, serves more than 600 families who preserve and eat tastier, healthier, home-grown food at far lower cost.



C. H. Wilbarger is treasurer of Nation's first defense co-op, composed of 30-odd machine-tooling shops. REA co-op Plant Supt. Thomas Moore watches new generator making cheap power for 3,000 members in 5 counties.



Many members store apples in 425,000-bushel capacity, REA-powered, cold storage plant at Broadway. W. W. Tremble, REA co-op director and member of four others, saves more milk with his electric cooler.



COOPERATION IN THE VALLEY

Down on the northwest border of Virginia lies the fertile Shenandoah Valley, which has provided rich soil for more than a dozen co-ops to grow and prosper. Agriculture is the chief "industry," and dairying, poultry, apples and other fruit, wool and lambs, beef fattening and hogs, the chief products. Because 90 percent of the people in the Valley belong to one or more co-ops and because the co-ops provide a wide variety of services, virtually all of these products are processed and marketed cooperatively. In addition, the people buy many goods and services through their co-ops. In the Valley, co-ops are a way of life because they make life better.

Pictured here are some of the things the people do cooperatively. Other enterprises not pictured include: A 65-year-old fire insurance co-op; an elevator co-op; a large co-op store selling dry goods, groceries, and hardware; several oil and supply co-ops.



In Harrisonburg, Valley's 20-year old milk co-op has 1,000 members. It processes 1,000 tons of milk monthly for shipment to several seaboard cities.



Freshly plucked and cooled broilers ready for grading at year-old, REA-powered poultry co-op. Plant capacity 1,600 birds per hour, 3,000 tons per year.



Weighing in wool at Harrisonburg co-op. Last year members sold 90,000 pounds at far better prices than they could obtain from small, individual sales.

REA HOMEMAKER

Lucky is the REA homemaker, when weather is at its hottest, who has electricity to provide a cooler, easier, safer, quicker method of canning wholesome foods for fall and winter consumption. The controlled, measured heat of the electric range, roaster, or hot plate insures successful canning plus a great saving of time, money, and effort.

The large roomy oven of the electric range, with its accurate, automatic temperature controls, can be used very successfully for the canning of fruits or vegetables like tomatoes and rhubarb. For the nonacid foods, such as beans, peas, and corn, and all meats and poultry, a steam pressure should be used. The surface units of the range are ideal for this method of canning. A turn of the switch provides just the amount of heat needed, thus relieving the homemaker from much of the usual watching and waiting.

For those who don't have an electric range, the electric roaster or hot plate will prove efficient workers in addition to being economical in both initial cost and operation.

Your home demonstration agent or co-op office have many worthwhile tips on canning.

Refrigerator Cookies

If you have a spare 20 minutes at one time and an extra 10 or 15 minutes later on in the day or next day, here is a simple, economical recipe for making delicious whole-wheat refrigerator cookies from whole-wheat flour made at home in the small electric mill.

- 1 cup melted butter.
- 5½ cups unsifted whole-wheat flour
- 1 packed cup brown sugar.
- 1 cup white sugar.
- 1½ teaspoons salt.
- 2 eggs.
- 1 teaspoon cinnamon.
- ½ cup chopped nuts.

Mix butter and sugar, add egg. Add flour and other dry ingredients. Then add nuts. Mix well. Make into small rolls about 2 inches in diameter and 8 inches long. Wrap in wax paper. Store in refrigerator until hard. Slice very thin. Bake in oven at 425° F. from 8 to 10 minutes.

CLARA O. NALE
Home Economist, REA

Electro-Economy Boosts Food Supply



EGGS FOR DEFENSE

WE NEED MORE EGGS FOR THE BRITISH
— MORE EGGS FOR OURSELVES.
EGG PRICES ARE UP. ALL-NIGHT
HEN-HOUSE LIGHTING IS EASY AND
WILL INCREASE EGG PRODUCTION
AT SMALL COST. ONE 15-WATT
BULB OVER THE FEED TROUGH
WILL SERVE 100 LAYERS.

ARE YOU A
KITCHEN CAMPER
DURING THE HARVEST SEASON?



AN ELECTRIC RANGE WILL
TURN OUT THE BIG, WHOLESOME MEALS
THRESHERS NEED IN HALF THE
TIME AND ½ THE TROUBLE.



SAVE THE POT LIQUOR
THE FRUIT AND VEGETABLE
JUICES LEFT IN THE POT
ARE RICH IN ENERGY-
BUILDING VITAMINS.

CO-OP CORNER

Cooperation means two words—"working" and "together." Too often we put so much accent on the second we forget the first. But unless people want to work a little for the common good, getting together will not help them at all. Here are a few examples showing how REA members, without great inconvenience to themselves, are working together to make their cooperative power ventures fully successful.

The Cimarron Electric Cooperative of Oklahoma received a card from Mrs. Clyde Long with this rhymed message: "Dear Shirley and Helen and the maintenance crew: I know something I ought to tell you. I found out, going home from town, one of those 'bars' is hanging down."

I. N. DeLong suggested to his cooperative, the Delta-Montrose Rural Power Lines Association in Colorado,

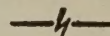
that an opening be made in the office door so that the members might slip in bill payments and contributions for the newsletter after normal business hours.

When the truck of the Taylor Electric Cooperative of Texas was trapped by flood waters, Max Busby and a crew of men hauled it out with a winch and a long line—but would accept no pay.

And when "Preacher" Bradshaw found a tree limb across the line of the Central Valley Electric Cooperative of New Mexico he called the cooperative to report it, drove to the scene, and waited there with his lights on so the linemen could find the trouble quickly.

Little things—but true cooperation.

UDO RALL
Co-op Consultant, REA



How much do you spend for goods you can produce on your farm?

Electro-Economy SUPPLEMENT

number

3

DEVOTED TO MAKING COOPERATIVE ELECTRICITY PAY ITS WAY

PUBLISHED BY THE RURAL ELECTRIFICATION ADMINISTRATION—UNITED STATES DEPARTMENT OF AGRICULTURE

FOOD CENTERS SERVE FARM FAMILIES

DEFENSE CALLS FOR MORE MILK

Plans of the Department of Agriculture call for a 12-percent increase in milk production during the next 12 months in order to meet expected demands of Americans as well as citizens of the democracies we are aiding.

Over a long period, milk production is increased by increasing the number of producing cows. In the present emergency, time is short. The immediate increase will have to come through more efficient use of the potential capacity of our present herds.

More than 60 percent of the cows in the United States are in herds of 10 or less; yet only 22 percent of the milk produced by these small herds is sold as fluid milk. A large proportion is never used for human food at all. It is fed to the hogs or lost because of improper cooling.

All of this simply means that a far greater proportion of our immediate fluid-milk needs must come from small herds through increased production per cow and greater care in saving and marketing present production.

Greater production requires better feeding and herd management practices. Conserving a larger part of present supplies implies better handling practices. Electricity helps in every phase of production and conservation of milk, whether the farmer milks 5 or 50 cows.

High-quality, home-grown, home-ground, and home-mixed feeds are prepared electrically at less cost. Automatic electric grinders eliminate time-consuming trips to custom mills. The home-made electric feed mixer, operated by a ¼- to ½-horsepower portable motor, is easy and cheap to make and

solves the problem of mixing concentrates with home-grown grains to get the best formulas for greater milk production.

Ensilage is cut and stored and hay is put in the barn with electric equipment. The electric motor will turn a fan for drying hay to prevent mold and to preserve the valuable vitamins.

Adequate ventilation of barns has long been known to improve the general health and vigor of cows whose well-being is reflected in the amount of milk and butterfat produced. Automatic electric fans provide better ventilation than do gravity ventilation systems.

An abundance of pure, fresh drinking water will increase milk production, and supplying water is another service to the dairyman performed by electricity. An automatic electric water system with individual drinking cups at the stalls will maintain production in cold weather, while a stock-tank water heater (an inexpensive one can be built at home) will also encourage cows to drink more water during the winter.

Running water in the barn permits frequent washing of the stalls and cattle, an important health measure in milk production. And, of course, milking machines cut milking time in half. Many improved machines are designed especially for small herds.

Milk, a highly perishable food, requires the utmost care in handling to insure top quality. Electric sterilizers, automatic water heaters, and plenty of running water make it easier to prevent contamination of dairy equipment.

Electric milk coolers are now available at low cost and in sizes to meet any needs. REA has encouraged the use of a one-can immersion cooler for the producer of less than 20 gallons daily.

Good, Low-cost Food Aim of Rural Groups

One of the first steps in the expanded national nutrition program was the first of 10 REA regional conferences, held last August in Grand Island, Nebr., to map ways and means to establish electrical community food-processing centers in 13,000 schools on REA lines. Since that time the 9 other regional conferences have been held, and now groups of members and interested citizens in many co-op areas are organizing neighborhood nutrition centers at schools.

Just as the highly successful school-lunch program of the past few years has improved the physical fitness and mental alertness of some 5,000,000 school children throughout the country, the rural neighborhood nutrition centers will help the 3,000,000 REA consumers and thousands of other farm families improve their well-being and at the same time cut their food budgets.

A food center with electrical food preparation and preservation equipment, installed at the school through the local REA co-op, will more easily provide hot lunches of a better nutritional value for the school children.

Use of this equipment by the women of the community to process their own foods will make the school more serviceable as an educational and demonstration center since they will gain practical knowledge of better nutrition. The local extension worker or home demonstration agent will have proper facilities to demonstrate better cooking, canning, and other processing methods of home-grown food.

An electrical dehydrator at the center will make it possible for the farm family to dehydrate fruits, grains, and

vegetables for convenient storage at home. A dehydrator not only preserves the valuable vitamins but provides a continuing supply of home-dried foods considerably under the cost of purchased canned or processed foods. An inexpensive dehydrator suitable for community use can be built locally as a manual-training or 4-H Club project.

Inclusion of a walk-in type refrigerator with a quick-freezing unit will provide effective facilities for preserving meats, fruits, and vegetables for the school and, to some extent, for the community. An effective 300 cubic foot walk-in box can be built for about \$350.

Installing one of the new-type mills at the center will make it possible for nearby farmers to grind a much more nutritious and tasty flour from their home-grown grains at considerable savings—in the case of wheat, at a saving of at least \$1 a bushel.

A small, one-room school can quite effectively start with a single-unit hot plate, an 18-quart roaster, and a small flour mill using a fractional horsepower motor, all at a cost of less than \$50.

Getting a food-processing center established is quite simple. A few REA members in a community, together with representatives of other local organizations, after obtaining detailed information from their REA co-op, discuss the type of center feasible with the local school board. Local representatives of the Extension Service, Farm Security Administration, and other Government agencies will provide the necessary technical assistance and give all possible help.

The first step, of course, is to form a food-center committee and talk up the idea in the community. In addition to representation of the REA co-op and the school board, other local organizations frequently represented on such a committee include home demonstration clubs, parent-teacher associations, grange, farm bureau, marketing and producer co-ops, churches, women's clubs, and similar groups. The county agent and home demonstration agent are usually members of the committee ex officio.

Your REA co-op is eager to help a food committee make your center a success—and make the citizens of your community “sturdier in body, steadier in nerves, surer in living” and at the same time cut their living costs. Multiply this thousands of times throughout the land. Result: A stronger people ready to defend the nation.

OSCAR W. MEIER, *Head
Co-op Education Section, REA*

Menard Co-op Forms Committee to Promote Safety Among Members

To reduce human suffering and financial loss from unnecessary accidents caused by ignorance of or disregard for dangerous conditions, the Menard Electric Cooperative at Petersburg, Ill., has recently organized a safety committee to promote safe electrical practices by its employees and members.

The purpose of the committee is to make the members of the co-op safety conscious—in the home, on the farm, along the line. Potential hazards are studied and methods developed for their correction. Members are also trained in the proper first-aid techniques.

The weekly meetings of the committee are devoted to discussions of timely safety subjects. Items are assigned for discussion to various members. Affiliated with the National Safety Council, the committee benefits tremendously from the experience and literature supplied by the Council.

In effect the committee is a small army of volunteer defenders organized for common defense against the havoc of pain and payments caused by the ever-present enemy, accident. The activities of the committee not only benefit the co-op but all the people in the area and

thus make the community a safer place in which to live.

If you and other members of your co-op would like to form a safety committee in your co-op, see your lineman or manager. Either or both of them will be eager to work with your committee. They are both well versed in methods to promote safe practices in your co-op.

POWER AT WORK

After installing their electric one-can milk coolers many REA farmers net \$2.50 a month more on weekly production of 10 gallons of cream by selling it sweet. Formerly they sold sour cream, but now keep their cream sweet until they have a can ready for market. The additional premium paid for sweet cream is enough to pay cooling costs and payments on the cooler, leaving a surplus, in some cases, sufficient to pay the entire light bill.

Here is how it works. A farmer sells 10 gallons of cream a week on a market that pays 6 cents more a pound for sweet than for sour cream. Ten gallons of cream means about 24 pounds of but-



MAKE IT YOURSELF

BUILD. To meet the increased production needs of food for defense most REA farmers will have to use new electrical equipment. Much of it can be made at home at little cost. Winter is a good time to do it. The Make-It-Yourself folders, show how to make useful appliances at home.

terfat a week, or 100 pounds a month. At 6 cents a pound he gets \$6 more a month by selling sweet cream. The one-can cooler costs \$3.50 a month for current consumed and payments on the cooler. This leaves a net profit of \$2.50, enough to pay all or a good portion of the balance of his electric bill.

25 Pounds of Flour for a Penny

Recent tests made by REA definitely indicate that a high quality whole-grain flour can be milled in the small feed grinders ordinarily used to grind feed for livestock.

In the small hammer mills wheat is first ground through a $\frac{1}{32}$ -inch screen and then through a $\frac{1}{64}$ -inch screen. This method produces a fine whole-grain flour from either hard or soft wheat. It takes about an hour to grind 15 to 25 pounds at a cost of approximately 1 cent for electricity.

Fresh flour can be milled in these grinders as needed, just like fresh coffee.

Repair Machinery This Winter

Today the farmer, like the factory worker and the soldier, depends more and more on efficient machinery to meet the demands of defense food production. Because it may be difficult to obtain new machinery or parts in the

future, it is essential to keep existing farm machinery in the best possible repair at all times.

Electricity is an all-around, inexpensive hand ready to help keep machinery in good condition. A rotary wire brush attached to a small portable motor removes rust from machinery and prevents deterioration. The equipment can then be oiled, greased, and stored, ready for use next season.

Broken or out-of-order machinery can be repaired quickly and cheaply in the farm shop well equipped with electrical tools. Emery wheel, grindstone, forge, drill, bench saw, and soldering iron are some of the electrical tools useful in repair work. Most of the shop tools can be operated with a single portable motor.

If new parts are needed, it is a good idea to install them during the winter to avoid delay in planting, cultivating, and harvesting operations next season.

V. L. GREGG

Farm Equipment Specialist, REA

Electro economy increases farm income in cash or kind.

There is no market for liquid butter—keep it solid and sweet in the refrigerator.

TAIL WAGS DOG

When DeWitt County Electric Cooperative, in Cureo, Tex., was first organized, some of the farmers along the lines refused to sign up.

Finally, however, after energization, one of the "die-hards" agreed to let the co-op install service wires to his house. The house was very old—the beams were so rotten that ordinary screw-type insulators wouldn't hold. It was necessary to wrap baling wire around the beams to hold the insulators in place. The house was soon wired; and, for the first time in his life, the farmer got electricity.

About 2 months later the co-op received a phone call from the farmer asking to have the service wires installed. Thinking that the baling wire holding the insulators had broken, the manager dispatched the service crew to do a repair job. When the men arrived they found the farmer had built a new house, and it was this house he wanted connected to the high line.

Several days later the manager visited the farmer, who said: "Yes, sir; the lights were so good I was ashamed of my house after they were installed. To keep up with the lights I built a new house."

REPAIR. Cold winter days and long winter nights make the electrified farm shop the center of activity on many REA farms. Plowing, cultivating, and harvesting machinery is put in shipshape condition for next season's use. Electrical appliances are made and repaired quickly. Your REA co-op will help you electrify your shop this winter.



ANY FARMER CAN BUILD A SMALL ELECTRIC CHICK BROODER AND PEN

MAKE IT YOURSELF

IT'S EASY AND CHEAP TO BUILD AN ELECTRIC PIG BROODER

MAKE IT YOURSELF

THE ELECTRIC PIG BROODER

MAKE IT YOURSELF AND MAKE MONEY

REA HOMEMAKER

The fall and winter seasons, when the rush of summer work is over and the family is settled in the routine of school days and winter chores, afford an opportunity to do some "fixing" around the house.

Long winter evenings make adequate lighting in the home most important. It's fun to have good light for the home. This means light of the right amount, of the right quality, in the right location, and in the right direction.

Indirect-Light Lamps Cheap

The living room or other room, where the family gathers in the evening while the children do their home work, should provide enough good light to make seeing comfortable and safe. IES lamps, for table or floor, provide enough indirect light, which is soft and without glare, so that there is a minimum of shadows and dark spots in the room. If the table lamp is placed in the center of the table several members of the family can work at the table without eyestrain.

Bulbs of proper size are important, especially for "close-seeing" tasks. The table lamp is designed for bulbs from 100 to 150 watts, while the floor lamp will provide three intensities of light with a 100-200-300-watt bulb. These lamps give the most light if the bulbs and reflecting bowls are kept clean.

These indirect-light, IES lamps may be purchased at low cost, or older type lamps may be converted at home at little expense. Diagrams and instructions for converting old lamps or for making new ones are available from your co-op.

A New Whole-Grain Bread

If your family likes bananas and nuts here is a good way to combine them with whole-grain flour to make an appetizing, nutritious bread. Try this tested recipe for whole-grain banana-nut bread.

- ½ cup shortening.
- 1 cup sugar.
- 2 eggs.
- 3 crushed bananas.
- 2 cups whole-grain unsifted flour.
- 1 teaspoon soda.
- ¼ cup finely chopped nuts.

Crush bananas and beat until light. Cream shortening and sugar. Add eggs, then flour, and soda and nuts. Add bananas. Turn into well-greased bread pan. Bake at 350° F. for 1 hour.

CLARA O. NALE
Home Economist, REA

Electro Economy Increases Farm Output



ONE LOAF OF WHOLE-GRAIN BREAD
EQUALS FIVE LOAVES OF WHITE IN
HEALTH-BUILDING VITAMINS AND
MINERALS

HOME GROWN WHEAT — HOME GROUND FLOUR

FARMERS CAN GRIND THEIR OWN WHEAT
WITH FAMILY SIZE MILLS NOW AVAILABLE.
HOME-GROUND, WHOLE-GRAIN FLOUR HAS
RICHER COLOR, TASTES BETTER, SAVES
OVER \$30 A YEAR PER FAMILY—AND
IS PACKED WITH HEALTH.



WINTER SEWING... ELECTRIFY YOUR
OLD SEWING MACHINE FOR \$10.
CUT SEWING TIME AND
CLOTHING COSTS IN HALF.



HENS LIKE IT HOT
— A POULTRY WATER WARMER WILL
INCREASE COLD WEATHER EGG PRODUCTION
UP TO 15 %

CO-OP CORNER

Members of the Washington Electric Cooperative in Marietta, Ohio, really practice cooperation. Last July each member sent in his first meter reading before the due date. That's cooperation.

But several members cooperated even more. Although the co-op neglected to send a meter-reading card to one member he sent his reading in a letter which also reported the progress his neighbors were making in their use of electric service. The reading card of another member was lost in the mail, so he went to the co-op's office and reported his reading in person. Probably the best example is the action of a number of members who discovered that their meters were not recording correctly and gave what they thought should be the correct readings.

The experience of this co-op is not exceptional, but it is important. Why?

It is important for two reasons.

First. A basic objective of REA co-ops is to provide electricity at the lowest possible cost to members. This means keeping expenses at a minimum. One way is for members to read their own meters and save the expense of paying employees to read them. This is a saving of \$1.44 a year for each member. In the average co-op this means an annual saving of \$1,584, equivalent to the salary of an employee.

Second. The experience of the Washington Electric Co-op again shows that, given an opportunity, rural people help themselves by helping each other to provide a service. By reading their meters promptly and reporting meters believed to be recording incorrectly the members are helping themselves. It is their co-op. They know that if they keep their co-op operating efficiently and economically they benefit. For one thing they can look for a reduction in their electric rates after a while. It is just plain common sense.

UDO RALL
Co-op Consultant, REA

Electro - Economy SUPPLEMENT

number

4

DEVOTED TO MAKING COOPERATIVE ELECTRICITY PAY ITS WAY

PUBLISHED BY THE RURAL ELECTRIFICATION ADMINISTRATION—UNITED STATES DEPARTMENT OF AGRICULTURE

MILK-MEAT-EGG DEMAND IS PERMANENT

DEFENSE ALTERS FINANCING PLANS

Farmers have learned economic theory the hard way. For example, the validity of the law of supply and demand has been brought home to them through wheat rotting in the bins or apples left unpicked on the trees or potatoes left in the ground because the supply was greater than the demand. At times prices have fallen so low that crops were not worth harvesting.

Suddenly, after several years of industrial depression, the defense program has created a situation in which the demand exceeds the supply. The thousands of planes and tanks and ships a-building use up materials which we also need to build automobiles, refrigerators, and brooders. Since defense production is vital, non-defense production must suffer. Ordinarily, prospective buyers would compete for the available supply by offering more money for the product. Prices would go up. People with fixed incomes or people producing

goods of which the supply is sufficient to meet the demand would suffer.

Several attacks are being made on this problem. A system of priorities has been set up to allot available materials according to necessity. Among the vital products which have high priority ratings are productive agricultural appliances. Increased savings are encouraged through purchase of defense bonds. New restrictions have been made on credit and installment sales.

About a third of all retail sales made in the United States involve credit. By increasing the amount of the down payment and the size of monthly payments the immediate demand for many types of goods will be curtailed.

The financing of wiring, plumbing, and appliance purchases through REA has been brought in line with general financing restrictions. The table below shows the new financing procedures now possible through REA. Under the new rates, financing of appliances will still be carried on, especially the financing of equipment useful in producing defense foods.

REA'S NEW CONSUMER FINANCING PLAN—IN BRIEF

(Effective January 1, 1942)

Type of loan	Annual interest rate on unpaid balances	Maximum length of loan	Maximum period per installment	Minimum down payment	Minimum payment per installment
1. Wiring.....	6%.....	18 months.	Month ..	5%.....	... \$5.00
2. Plumbing:					
(a) Household—Water pumps, water heaters, plumbing and sanitary fixtures, etc.....	6%.....	...do.....	...do.....	15%..... 5.00
(b) Farm use—Supplementary garden and truck-patch irrigation equipment, stock and poultry watering, dairy and poultry water heaters.....	6%.....	5 years....	{...do..... Quarter. Half-year	5%.....	{... .75 2.25 4.50
3. Appliances:					
(a) Household—Refrigerators (under 12 cu. ft.), ironers, washing machines, radios, vacuum cleaners, etc..	6%.....	18 months.	Month ..	20%..... 5.00
(b) Farm equipment—Feed grinders, milk coolers, chicken brooders, etc.....	6%.....	5 years....	{...do..... Quarter. Half-year	5%.....	{... .75 2.25 4.50

Continuing Need Prevents Farm Loss

Torn between a genuine desire to strengthen that part of the world resisting aggression and a haunting memory of agricultural collapse after the last World War, many farmers in the United States have feared the consequences of all-out production of milk, eggs, meat, and truck crops.

At the recent REA Food-for-Defense Conference, at Grand Island, Nebr., Harry Andrews, president of the Highline Electric Association, Holyoke, Colo., described questions asked by farmers, but more significantly the conference answered them.

Can't Forget Last War

"We cannot forget," Mr. Andrews said, "what happened in the last war. They told us to raise more wheat, and we did. We plowed up thousands of acres of virgin prairies that never should have been touched. We wore silk shirts in the harvest fields. We fed the world. Somebody won the war—but we farmers lost our shirts."

But at this point Mr. Andrews took up a new factor in production and conservation of food crops—one which enables farmers to increase the marketable output of Food-for-Defense without so great a risk of loss from overexpansion. That factor is rural electrification. "When REA asks us to join the defense food campaign we'll go along because we know them," he concluded.

Succeeding speakers at the conference, including REA Deputy Administrator Robert Craig, pointed out vital differences in the two programs. In 1914-19 the demand for grain and fiber crops created tremendous increases in the farm-plant investment—notably in land and heavy machinery. Wage rates spiraled upward

as farm and industry tried to outbid each other for available manpower. Equipment and land bought at war-time prices had to be paid for with devalued peacetime dollars. Wages fell, and hands and tenants fled from devastated farm to poverty in the city.

Prevents Over-Expansion

Today's emergency food requirements are vitamin foods that build courage and bone and nerve. From an economic standpoint these are the foods from which the farmer receives a continuous cash income day after day throughout the year. Since the middle of the last century agricultural planners have advocated diversified farming based largely on more general production of these same products. They tend to make the farm nutritionally self-sufficient. At least 90 million people in the United States, either owing to low incomes or poor food habits, do not eat enough of these foods. Increased supplies of these products may be obtained through:

1. Greater production following better farm management without ruinous plant expansion or a large increase in farm labor;
2. Greater conservation of existing production through better handling and processing.

Thus the production of more milk, eggs, meat, and truck crops has a solid basis in the present and continuing food requirements of the country, in the agricultural and economic wisdom of diversification, and in better farm management.

The conference at Grand Island, Nebr., was the first of 10 held in the various REA regions for the purpose of promoting establishment of food preparation centers in rural schools and other community meeting places served by REA systems. Small electrically operated mills, fruit and vegetable dehydrators, refrigerators, and other equipment are being set up in these centers for use by farm families unable to buy their own equipment.

All this can be accomplished on the electrically equipped farm without unnecessarily large expenditures for farm-plant expansion and without forcing the farmer to enter competition with manufacturing industries for additional labor. Farmers who use electrical equipment to increase their production in this national crisis will not have to embark on a silk-shirt spending splurge such as that described by Mr. Andrews of Colorado.

OSCAR W. MEIER, *Head
Co-op Education Section, REA*

Income-producing Units Increase Among REA Co-op Members

The enormous capacity of REA farmers to contribute to the defense campaign for more milk, eggs, and truck crops is strikingly revealed by REA's fourth annual appliance survey of 70,000 members of 120 co-ops in 33 States. Particularly significant is the jump in the number of farms using income-producing electrical equipment in 1941 compared to 1939.

For example, an estimated 125,000 farms along REA lines had electric water-pumping systems in early 1941 compared to only 46,000 farms 2 years earlier. Plenty of good fresh water available to laying hens and milk-producing cows is of foremost importance in increasing production. On the farm electric household refrigerators not only provide better tasting, fresher food for home consumption but also storage space for marketable surpluses. The number of household refrigerators along REA-financed lines increased from 90,000 to 285,000 during the 2-year period.

Electric milk appliances showed large increases. The number of stock-tank water heaters increased five times, electric fences four times, and there are now three times as many feed grinders. The number of electric

milk coolers was tripled and that of dairy water heaters quadrupled, while twice as many cream separators and milking machines are now available.

The number of poultry water warmers increased nearly seven times and chicken brooders five times, while twice as many farms had poultry-lighting installations.

Gratified by this remarkable achievement during the first months of defense efforts, REA Administrator Harry Slattery said: "There will be more high-quality food because of this startling increase in electrical appliances used in agricultural production. Wired help for the farm is rapidly stepping up production in spite of a decreasing labor supply."

POWER AT WORK

Germination of seeds, rooting of cuttings, and growth of plants is 20 to 30 percent faster with an electric hotbed than with older types of bed. Your present hotbed or a newly constructed bed may be electrified with very little trouble and small expense. All you need is a few lengths of rubber-covered soil-heating cable and a

PIN-UP LAMPS

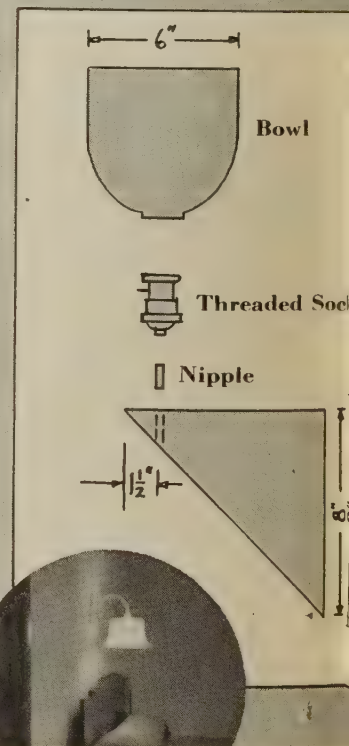
In addition to furnishing better light, a pin-up lamp is a welcome addition to any room.

Pin-up lamps make fine gifts. Ready-made ones are reasonably priced but they can be easily made at home. Here are the materials and directions needed to make a good one.

An electrified farm shop makes it easier for any energetic farm boy or girl to build this one.

Accessories:

- 1 push-through switch lamp socket.
- 1 socket (cap threaded for 1/8" pipe).
- 1—1/8" pipe nipple.
- 1 appliance cord, 9' (not smaller than No. 18 AWG conductor).
- 1 appliance-cord plug.
- 1 screw eye.
- 2 finishing nails.
- 1 shade with clip-on holder.
- 1—100-watt Mazda bulb.



thermostat. Your co-op office will have plans and information concerning construction. Controlled heat has been found to increase the number of cuttings which root about 50 per cent.

Pig and Lamb Brooders

In this critical period United States farmers are called upon for increased production of meat. Every pig or lamb farrowed and raised will fur-

ther this important objective. The REA Make-It-Yourself electric pig or lamb brooder proved its value last winter. Complete plans and specifications for building this inexpensive (\$4) brooder are available at your co-op office. The same plan may be used for either pigs or lambs by adjusting the height of the brooder. An 18-inch brooder will serve for lambs; the pig brooder may be several inches lower. Build a new brooder or repair an old one during December and January for early spring farrowing.

Electro-Economy

Buys Defense Stamps

Members of several REA co-ops are buying a share in the world's soundest business—America. They are buying defense savings stamps with the additional profits resulting from the practice of electro-economy. And they're doing it without great inconvenience to themselves.

The co-ops have the stamps and albums to paste the stamps in. When a member gets an extra dime, quarter, or half-dollar, from selling more eggs or milk, for example, he buys a stamp at the co-op. In a very short time enough stamps accumulate to turn in an album on an interest-bearing defense bond.

Ultraviolet Light

Ultraviolet light can replace cod-liver oil or other fish-liver oils (now hard to get) as a source of Vitamin D in the feed; indeed, one set of experiment-station tests shows that in addition to being cheaper, ultraviolet light promotes as quick growth and as good health of chicks as does cod-liver oil at present prices. Shell texture and hatchability of eggs is improved and chick mortality lowered. In many poultry houses ultraviolet equipment is replacing ordinary lamps for lighting. In this way the total annual as well as fall and winter egg production is stepped up. Satisfactory ultraviolet units retail for as little as \$12.50.

V. L. GREGG, *Farm Equipment Specialist, REA*

Milk Adds to Income

From Pine Bluffs, Wyo., comes a typical example of the way electricity on the farm may not only pay for the luxuries and conveniences which it makes possible, but also increase the farm's output of essential foods.

A year ago Carl Pearson, of Pine Bluffs, was regularly milking only one cow of the herd of fair-to-middling grade cows on his farm-ranch. This one cow supplied enough milk for the family table. All the milk from the other cows on the farm went to the calves, which were marketed as beef.

Then came REA. The Rural Electric Association of Pine Bluffs built its lines past the front door of the Pearson's home. Their farm was soon wired.

The Pearsons, of course, wanted an electric refrigerator and other conveniences. So they looked about the farm to see what they could do to earn some extra money to pay for the desired equipment and to meet their monthly bills for current.

Milking some of their recently freshened cows was the solution. Gradually they added more milkers.

Today the Pearsons are marketing the milk from 14 cows. Electric milking machines have made it possible for them to add dairying to their commercial farm operations without additional labor.



READY-MADE or
HOME-MADE
PIN-UP LAMPS for GIFTS

Lumber:

- 1—45° triangle with 8" arms.
- 1—9" x 1 5/8" x 3/4".
- 1—1-ply plywood strip 12" x 3/4".

Assembly:

Cut, trim, and plane the triangular support. Cut a groove in the long arm of the triangle for the cord and bore a hole for the pipe nipple.

Cut and trim the base and attach to the triangle with finishing nails.

Place the nipple in the hole. Attach the cord to the socket and screw the socket onto the nipple, threading the cord through the nipple and along the groove. Glue the plywood strip over the groove.

Fix screw eye to the top of the base. Insert bulb and place shade on the lamp.

The lamp may be finished in the desired color scheme to match other fixtures or decorations.

REA HOMEMAKER

The holiday season will soon be with us. Symbols of the season will be cheerfully shining from the lighted, gaily decorated windows of neighbors' homes everywhere.

Many more REA homes this year than last will have colorfully lighted Christmas trees and wreaths. If you are buying new Christmas lights, give some thought to choosing the type that is wired in parallel. Such lights are a little more expensive than those wired in series, but when one bulb burns out the rest stay lighted.

If you are buying new bulbs for the string of lights you have that are wired in series, it is possible to get bulbs which glow after they burn out. Both types of lights eliminate the trial-and-error search for burned-out bulbs.

Low-cost electricity makes it possible for REA members to light an appropriately shaped tree outside on the lawn. As a safety precaution, use only the especially designed outdoor tree lights having waterproof wire and insulated sockets.

Give Electrical Presents

This year, more than ever, Christmas gifts need to be practical as well as enjoyable. Useful electrical presents for all members of the family will carry the Christmas spirit throughout the entire year.

Steamed Fruit Pudding Recipe

To top off Christmas or New Year's dinner try this delicious fruit pudding, not unlike the time-honored plum pudding.

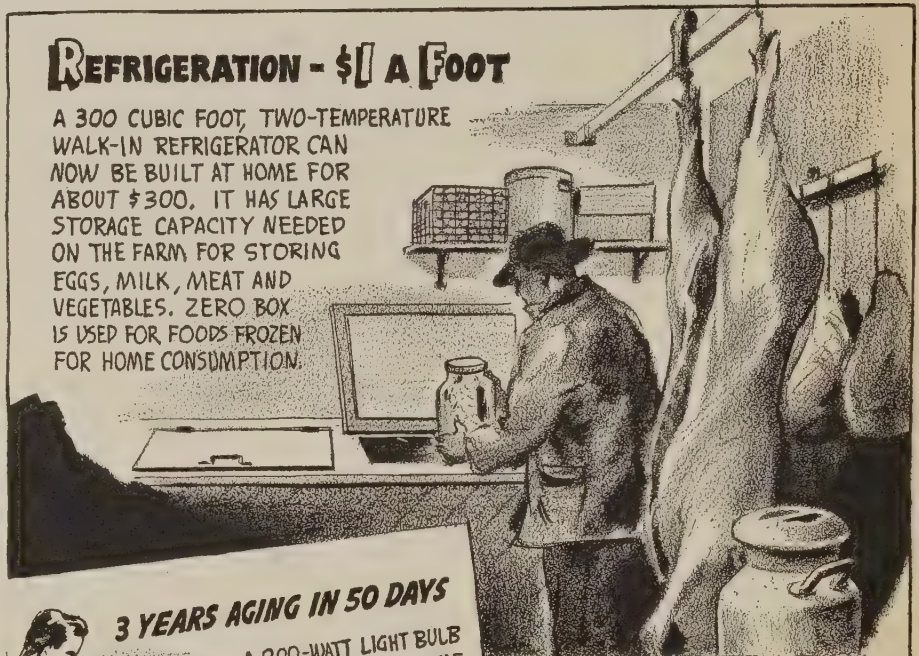
- 2 eggs,
- 1 cup brown sugar,
- 1 cup ground suet,
- 2 cups soft bread crumbs,
- 1 cup milk,
- 1 teaspoonful vanilla,
- ¼ cup orange juice or wine,
- 1 cup flour,
- 1 teaspoonful soda,
- 2 teaspoonsful cinnamon,
- 1 teaspoonful cloves,
- ½ teaspoonful salt,
- 2 cups raisins,
- 1 cup chopped dates,
- ½ cup assorted fruit peel,
- ½ cup chopped nuts.

Beat eggs. Add sugar, suet, bread crumbs, milk, and vanilla. Mix well and add remaining ingredients. Pour into 3 well-greased tins. Place in well cooker, and add 1 cup of water. Turn heat to high. When steaming freely

Electro-Economy Aids National Food Program

REFRIGERATION - \$1 A FOOT

A 300 CUBIC FOOT, TWO-TEMPERATURE WALK-IN REFRIGERATOR CAN NOW BE BUILT AT HOME FOR ABOUT \$300. IT HAS LARGE STORAGE CAPACITY NEEDED ON THE FARM FOR STORING EGGS, MILK, MEAT AND VEGETABLES. ZERO BOX IS USED FOR FOODS FROZEN FOR HOME CONSUMPTION.



3 YEARS AGING IN 50 DAYS

A 200-WATT LIGHT BULB IN AN INSULATED, HOME BUILT CABINET WILL, IN 2 MONTHS, AGE HAMS COMPARABLE IN TASTE TO COUNTRY HAMS AGED 3 YEARS BY USUAL METHODS



ELECTRIC VITAMINS

ULTRA-VIOLET LIGHT SERVES DOUBLE PURPOSE — POULTRY LIGHTING AND SUPPLY OF SUNSHINE VITAMIN D FOR HEALTHIER CHICKS, BETTER SHELL TEXTURE, INCREASED EGG PRODUCTION



turn to low and allow to steam for 1¾ hours. Serves 15. Delicious when served with butter sauce.

CLARA O. NALE

Home Economist, REA



CO-OP CORNER

Here is the first paragraph from an excellent invitation one co-op sent each of its members:

"You are a member of a \$185,000 co-op. There are 469 other members. Now this is a lot of members, and we all have some ideas on running our organization. So we are getting together in our third annual meeting to exchange these ideas and shape our plans for the coming year. Your ideas are important. May we have the benefit of them at the meeting?"

It is not surprising that nearly all the members went to the meeting and

freely discussed the affairs of their organization. Democracy in action.

You, too, will soon have an opportunity to attend your annual meeting and discuss the affairs of your co-op. Why not take advantage of your right in a democratic organization? Here are some questions about your co-op you may be turning over in your mind.

Is your co-op progressing to your satisfaction? Does it have a sufficient volume of business? Is the financial condition sound? Are the members kept adequately informed?

How is the food-center program progressing in your co-op? Could you start one in your neighborhood?

The best place to find out the answers to these and other questions is at your annual meeting.

REA members have the capacity to run their own affairs. Why not demonstrate it?

UDO RALL

Co-op Consultant, REA

Electro - Economy SUPPLEMENT

number

5

DEVOTED TO MAKING COOPERATIVE ELECTRICITY PAY ITS WAY

PUBLISHED BY THE RURAL ELECTRIFICATION ADMINISTRATION—UNITED STATES DEPARTMENT OF AGRICULTURE

FARM POWER VITAL TO 1942 FOOD GOALS

NEW WALK-IN COOLERS SAVE FOOD, CUT WASTE

Food for Freedom means conservation as much as production. Preserving present stocks of food for home consumption and market is just as important as producing more. Preventing waste is equivalent to increasing production. For many foodstuffs this is the only way to increase supply.

Next to canning, refrigeration is the most widely used method of home-food preservation. In addition to preventing spoilage, refrigeration preserves nearly all the valuable vitamins in fresh foods. Latest refrigeration aid to the farmer is the walk-in cooler used for large cold-storage space to supplement the kitchen refrigerator used by itself.

The walk-in cooler of 200 to 300 cubic-foot capacity, including a 50- to 60-foot zero box or sharp-freeze compartment, has been used extensively in the far West for a number of years and is becoming more and more popular in other regions.

With the walk-in cooler a farmer can preserve many months' supply of practically all home-grown food for

his family at far lower cost than if bought as needed. Equally important, the cooler makes it possible to preserve perishable products to sell on a good market. A large-capacity cooler will hold several hundred pounds of food stored in the bulk, while food kept in the sharp-freeze compartment is usually packaged. When the large cooler is not practicable, a ready-made 25-50 cubic foot freezer chest is frequently used.

Construction of walk-in coolers follows three general patterns. Except for hardware and the refrigeration mechanism, the cooler may be completely home-made, using local lumber and insulating material such as sawdust, wood shavings, ground corncobs or stalks. Others are partially home-made, with doors, door jambs, and other cabinet work obtained in finished form. Complete coolers knocked down for construction on the farm are also available.

Because of the variety in styles and sizes of walk-in coolers and because of rapid changes in material costs it is impractical to quote prices. However, if there is a sufficient demand to make possible quantity production of refrigeration equipment and other necessary

(See *Walk-in Coolers*, page 2, col. 3)

Since the cooler requires an over-all space of approximately 1,000 cubic feet, it is most convenient to build it outdoors, usually adjacent to the kitchen, with the cooler entrance near the kitchen door. Frequently a cooler can be located so that the door will open directly into the kitchen.

All-Out Production Imperative—Wickard

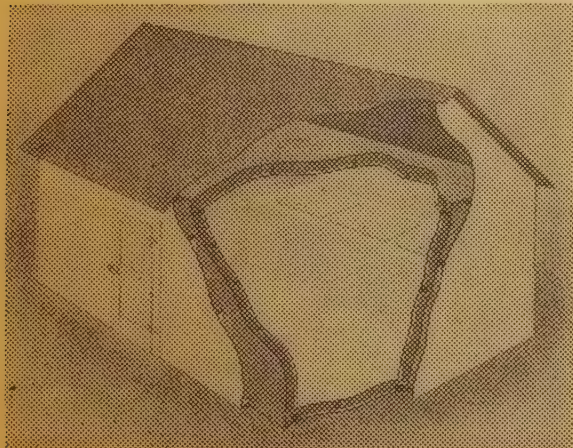
"Food will win the war and write the peace." Agriculture Secretary Claude Wickard's slogan has stirred the imagination of millions of farmers and city workers up and down the land. It is a catchy slogan, but to translate it into action will require careful planning and hard work on all farms. Increased demand for more food by busy defense workers, military forces, and the nations resisting aggression simply means we have to produce more food. To this end the Secretary has established farm-production goals for 1942 calling for a total production 15 percent higher than the 1924-29 average.

"The goals for 1942 call for the largest production in the history of American agriculture, but we are not going to have to plow up the hills and plains to get it. We are not going to repeat the mistakes of the first World War which brought a long series of difficulties for farm people," emphasized Secretary Wickard in announcing the food-for-freedom campaign. Increased production of the new basic foods means more intensive use of existing land and equipment.

Protective Foods

The big production increases will be in the protective foods, rich in minerals and vitamins, which build brawn and muscle, strong nerves, and vitality essential for the defense of American families. These foods, sometimes called the new basic foods, include: milk and eggs, fruits and vegetables, meat, and the feed grains and hay necessary to produce these things.

We shall need 8 billion pounds more milk than we produced in 1941. This represents the entire production of



about a million and a half more cows. We obviously cannot increase our herds to that extent in a single year, so increased supplies must result from better management and better conservation of milk now wasted through spoilage. This is where electricity steps into the picture. Milking machines enable the farm family to milk a larger number of cows without having to hire additional labor. Running water in the stanchions, and feeds ground and mixed on the farm with electrically operated machinery increase milk production. Milk-cooling equipment enables the farmer to get a larger percentage of his milk to market.

Similarly, electricity will help us get the 200 million more dozen eggs required in 1942 over 1941. Electric brooders bring more chicks to maturity, and electric lights and water warmers in the hen house during the winter months get more eggs from the same number of hens.

The greatly increased production of meat animals for slaughter can be met more easily on the electrified farm. Electric pig brooders save the lives of many pigs that would be lost under old "root-hog-or-die" methods. The same type of brooder constructed with a slightly higher roof will protect young lambs from disease. Fattening formulas made from home-grown grains can be prepared with electrical grinding, chopping, and mixing equipment.

Another essential part of the 1942 food-for-freedom campaign is production of fresh vegetables. Early vegetables and seedlings thrive best in the controlled temperature of the electric hotbed. Small sprinkler systems connected to the pump that supplies the farm home with water under pressure are being used to irrigate gardens and small commercial vegetable plots on hundreds of farms. This makes possible an abundance of canned and refrigerated foods for the farm table and a marketable surplus from the same acreage obtained with the same or less labor.

Electricity and electrical equipment can achieve, perhaps more than any other single factor, greater production of the essential foods with a minimum expense in additional land, equipment, and labor.

KENDALL FOSS, *Chief
Information Division, REA*

Wired Hotbeds Speed Early Vegetables, Can Be Operated At Only Small Expense

Electricity as a source of heat for early spring hotbeds is most effective in starting early fresh vegetables for home gardens and the Nation's markets.

Hotbeds should be located carefully in order to insure the best results. The main points are: (1) Protection from winds, (2) the cover should slope south for maximum sunlight, (3) good drainage, (4) convenient water supply, (5) accessibility to farmhouse or buildings.

Local experience and knowledge of available materials are the best guides for the construction of hotbeds. The heat supplementary to the sun is provided by a soil-heating cable and adjustable thermostat.

The soil-heating cable is a rubber- or lead-covered resistance wire imbedded in the soil 4 to 6 inches for all plants except sweetpotatoes which require a depth of 7 or 8 inches. Some farmers, however, lay the lead-covered cable on top of the soil. Heating cables are designed to operate in 60-foot lengths on 110 volts and in 120-foot lengths on 220 volts.

Costs of electrical equipment vary from \$2 to \$6 per sash, depending upon the number of sashes operated with one unit of cable and thermostat. Operating costs depend, of course, on weather conditions, insulation, and type of plants grown. Reports from one southern agricultural college show an average of 21 kilowatt-hours per 1,000 sweetpotato plants grown.

Co-op Manager Has Information

Your REA co-op manager will be able to furnish more detailed information on electric hotbeds.

Walk-in Coolers

(Continued from page 1)

materials, 300-foot coolers may become available within a price range of \$200 to \$300, depending upon size and style.

Costing about \$3 a month to operate, depending on usage and size, coolers are proving to be excellent investments on many farms. They provide tasty and nutritious food the year round for the family and add to income by permitting the marketing of high-quality products to assure top prices.



1942's First Crop

Kids will always be our best crop. More than wheat or beans or peaches or tomatoes, America needs kids. It needs strong, sturdy kids that some day will become capable leaders. Such kids must be well nourished. REA co-ops are striving to make this nourishment available. If the materials can be secured, the co-ops are prepared to assist 20,000 rural schools on REA lines to establish nutrition centers. There, by the use of electrical equipment, hot lunches will be prepared for school children, cooking demonstrations will be held for homemakers, grains may be ground and vegetables processed for home consumption. Several nutrition centers, under way only a short time, are already community assets. They constitute nutrition insurance for 1942's first crop—kids.

POWER AT WORK

A conveniently located yard light is profitable equipment for any farm. During winter mornings and evenings chores can be done more easily and quickly with a yard light approximating daylight. Both hands are free, which is not possible if a lantern must be carried. Besides, a yard light furnishes burglar protection.

A satisfactory yard light can be constructed for as little as \$1, while a completely assembled unit can be purchased for less than \$5.

Dairy Ventilation

During cold weather it is especially difficult to maintain uniform temperatures and proper relative humidity with ordinary ventilation methods. But a thermostatically controlled electric fan will maintain reasonably uniform temperature and humidity low enough to eliminate moisture condensation. Both factors are essential to the health and vigor of cows whose well-being is reflected in the quantity of milk produced.

An electric ventilating fan is installed in a window or similar location so that it will cause little or no draft. A simple wooden cover for the

fan and air duct to the floor is constructed. This will draw the heavy, moisture-laden air from the floor.

Poultry Water Warmers

Throughout most of the country, poultry drinking water often is too cold for adequate consumption during the winter season. By keeping the water at about 50° many poultry farmers increase their egg production by one to three dozen eggs per layer per winter season. An automatic immersion-type electric heater has been reported to add as much to net income as do hen-house lights. It can be used in almost any ordinary water container, is low in original cost, and inexpensive to operate.

REA members who buy their electric heaters cooperatively through pooled orders frequently pay no more than \$2 or less per unit. The energy consumption approximates 1 kilowatt-hour per layer per season.

Egg Cooling

Keeping eggs properly cooled before marketing frequently increases their value by 1 to 2 cents a dozen. Eggs should be stored at temperatures of 50° to 60° and at a humidity of not less than 75 percent.

If kept free from foreign odors, the average farm cellar is a good place

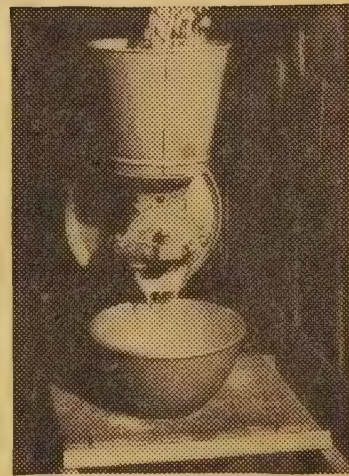
for year-round storage of eggs for periods not exceeding 2 weeks. A small electric fan directed on the wire baskets containing freshly gathered eggs hastens cooling. To prevent excessive drying the fan should not be kept in operation for more than an hour.

For those who do not have efficient cellars, home-made egg-cooling equipment can be constructed quite easily. The "wind tunnel" principle using a fan and water evaporator is producing good results for quick cooling and storage. Every REA co-op manager is able to supply further information on such equipment.

Small Dairy Water Heaters

You can now buy small electric dairy water heaters for heating water needed to wash milking utensils, cream separator, calf pails, and such. They are of the low-wattage type (250-500 watts) and can therefore be plugged into any wall plug. Piping is not required. They are known as the displacement type, wherein you pour a bucket of cold water to catch a bucket of hot water from the spout. Their low cost (\$25-\$40) for small size (2-gallon to 10-gallon) has made them increasingly popular.

V. L. GREGG, *Farm Equipment Specialist, REA*



A small flour mill for grinding more nutritious and tasty flour from home-grown grains and an 18-quart roaster and small hot plate (not pictured) for cooking hot lunches are suitable for one-room schools. The two cost less than \$50.

REA HOMEMAKER

The wise farm homemaker in 1942 will resolve to conserve all resources. This involves: The utmost use of all foodstuffs, particularly those home-grown, in order to provide every member of the family with the best food for health, strength, and happiness; the fullest use of all commodities; the conservation of her own energies so that they may be used outside the house. Carrying out this resolution in the electrified home demands efficient use of equipment.

Electric refrigeration becomes increasingly important as a means of preserving foods and preventing spoilage. Year-round electric refrigeration has been termed food insurance. To make sure that the refrigerator is operating at the least expense and is providing the most "food insurance," it would be desirable to reread the directions for its operation and care. Pay particular attention to the manner in which foods are stored in the refrigerator and the necessity of frequent defrosting. Prevent the coating of the frost from becoming more than a quarter of an inch thick.

The electric range, hot plate, roaster, and similar appliances are great aids to the farm homemaker in preparing appetizing and well-cooked foods, rich in most of their original endowment of nutritious elements. Constantly controlled temperatures, possible with electric cooking, preserve many of the valuable vitamins and minerals. Chief reason is that only a minimum amount of water and just the right temperature are needed for food to cook "to a turn."

A pressure cooker on an electric range or hot plate is excellent for canning meat. It maintains the desired pressure during the whole canning period, thus insuring a better and more uniform product.

The electric iron, washer, vacuum cleaner, and electric mixer do much to make homemaking easier. They save time, making it possible for the farm wife to devote more of her energies to helping with many of the farm chores, especially where labor is scarce.

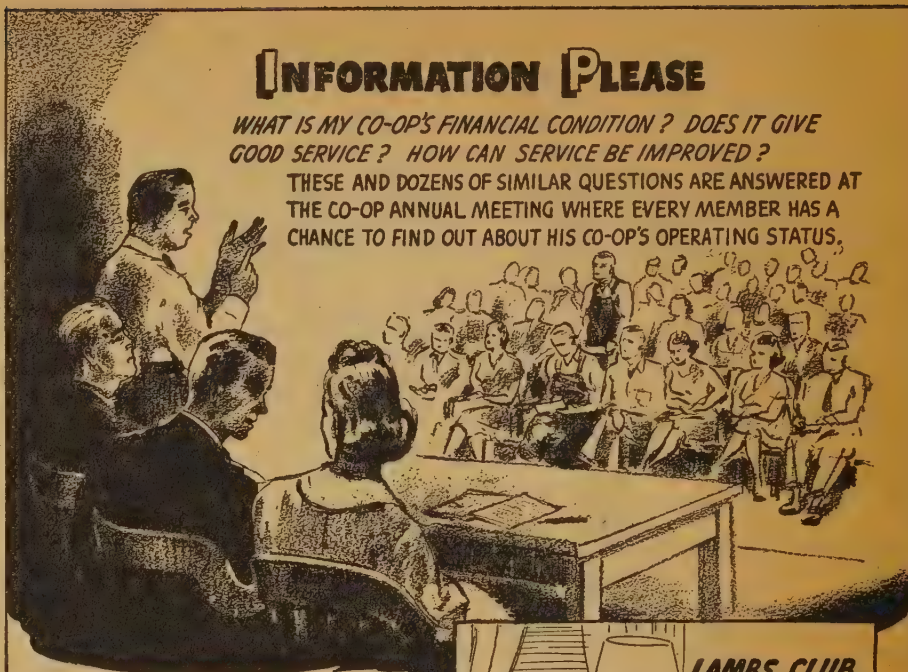
Since parts and supplies for many electrical appliances for the home are becoming difficult to obtain, it is particularly important now to keep them in good repair and operate them as directed to get desired results.

The liquid in a jar or can is food. Valuable minerals and vitamins are

INFORMATION PLEASE

WHAT IS MY CO-OP'S FINANCIAL CONDITION? DOES IT GIVE GOOD SERVICE? HOW CAN SERVICE BE IMPROVED?

THESE AND DOZENS OF SIMILAR QUESTIONS ARE ANSWERED AT THE CO-OP ANNUAL MEETING WHERE EVERY MEMBER HAS A CHANCE TO FIND OUT ABOUT HIS CO-OP'S OPERATING STATUS.



WOULD YOU BELIEVE IT?

A CIRCULAR SAW OPERATED WITH A 5 H.P. ELECTRIC MOTOR CUTS CORDWOOD 5 TIMES FASTER AT $\frac{1}{10}$ THE COST OF HAND CUTTING.



LAMBS CLUB

EARLY LAMBS THRIVE IN ELECTRIC BROODERS. THE REA MAKE-IT-YOURSELF PIG BROODER SERVES FOR LAMBS BY RAISING THE ROOF 6 INCHES HIGHER.



CO-OP CORNER

One big difference between Nazified Europe and democratic America is that here co-ops are thriving and increasing, while over there the Nazis have done everything possible to destroy them.

This is not hard to understand if one considers the true nature of totalitarianism. It is based on the belief that people are incapable of running their own affairs. Democracy, on the other hand, operates on the principle that when given a chance the common people can run their own affairs to their best advantage.

A co-op is a democratic institution. It is organized self help. The right to

dissolved in it. If this "potlikker" goes down the drain, your family is robbed of these health-giving substances. Eat all that is canned.

CLARA O. NALE

Home Economist, REA

organize co-ops stems from the free economic system basic to our democratic form of government. But, as with any right, there are responsibilities in successful cooperative operation.

Keys to Co-op Success

An REA co-op can give good service at low cost and be of the greatest possible benefit to its member families only when the members take as much active interest in its operation as they do in operating their own farms.

Loyal member participation and intelligent member control are the keys to co-op success. To get the most out of your REA co-op requires your best effort and thought.

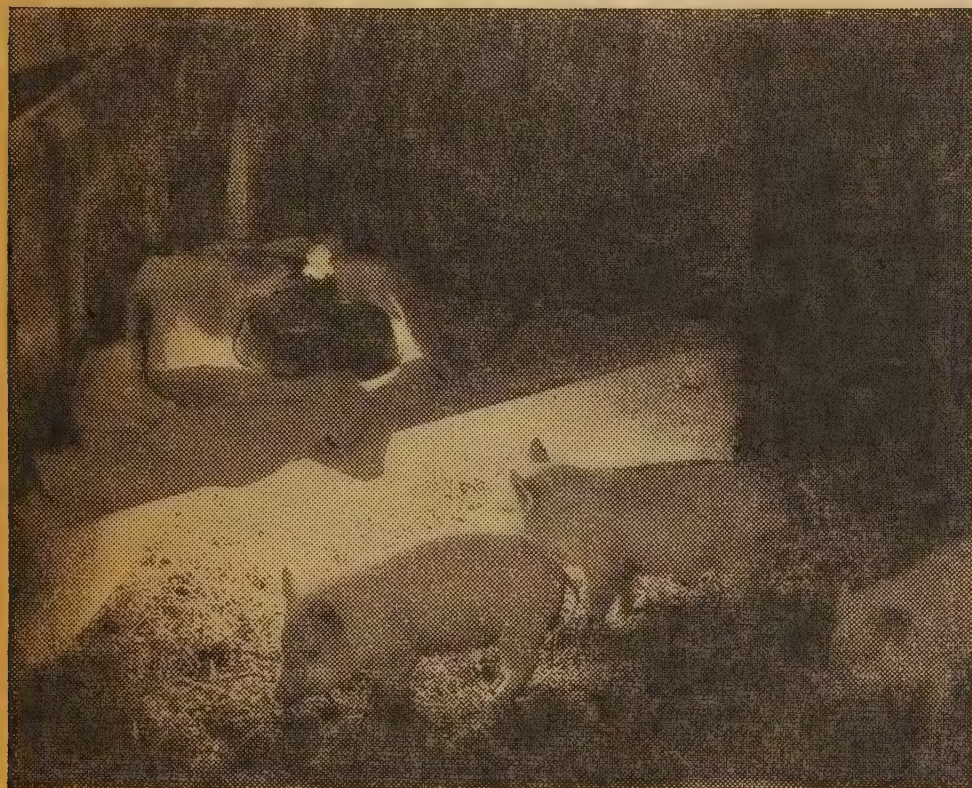
An REA co-op with a loyal and active membership is a benefit to any community, and the members who have worked for its success have good reason to be proud. A successful co-op is proof that people can run their own affairs. It shows that democracy works when people really set out to make it work.

UDO RALL

Co-op Consultant, REA

RURAL ELECTRIFICATION ADMINISTRATION—U. S. DEPARTMENT OF AGRICULTURE

BROODERS STEP UP FOOD PRODUCTION



“... money in the bank.”

HOTBEDS IMPROVE PLANTS, FARM GARDENS

Electric hotbeds insure a supply of good plants for earlier planting, save time and labor, and thus increase production for defense. With Uncle Sam calling for a million more and better farm gardens in 1942, hotbed installation deserves careful consideration.

Many farmers neglect farm gardens or fail to start them. The reason usually given is lack of desirable varieties of plants at the proper time or, if this is not the case, lack of healthy, vigorous plants. This is sometimes the case when farmers rely on local greenhouses or grocery stores for their young plants. A small electric hotbed would supply healthy plants at the proper time for both its owner and his neighbors. It could be installed for about \$20.

The hotbed will normally supply well-developed plants at about the time farmers are planting seed in the garden. This grants several weeks' margin to plant

growth. It means food for the table long before it could be obtained by other methods. And it means double and triple production if used to produce two or three crops per year.

Raising plants with a manure bed requires time and labor. After each crop the manure must be replenished. A mere snap of the switch heats soil electrically and starts another planting on its way.

Automatic control of temperature results in higher germination as well as more rapid plant growth. In addition, plants are more nearly uniform and more vigorous.

A two-sash hotbed enclosing about 36 square feet of space can be expected to produce from 3,500 to 4,000 tomato plants at a planting, or an approximately corresponding number of sweetpotato slips, eggplants, peppers, cabbages, or cauliflower. In stepping up production don't overlook the electrically heated hotbed.

A chick in a good brooder is worth two in the cold. Much the same is true of pigs and lambs. Nature will produce them, but she needs help to keep them alive. To deny her that help in times like these is to handicap seriously the food-for-freedom struggle. Electric brooders cost little. They are easy to build, inexpensive to operate, and useful in getting maximum production.

Pig Brooders

Pig brooders are money makers. They help to prevent young pigs from chilling or from being crushed. Nature does not protect pigs against low temperatures at the time they are farrowed. They must depend for warmth upon close contact with their mother for days or even weeks if the weather is extremely cold.

The sow has a big job to keep a large litter of pigs warm and still avoid lying on them. Why not let electricity help the sow and save the pigs? The pig brooder does both jobs at once. It provides a snug warm corner away from the sow. The pigs, after a few hours, need no coaxing to stay in the brooder when they are not nursing or exercising.

The brooder costs from \$2 to \$4 to build, and the kilowatts used during the few days needed cost very little. Pigs saved today are money in the bank.

Chick Brooders

The electric chick brooder doesn't "cluck" to its brood or lead it through the barn lots, but it does a better job of brooding than the old hen. It stays put and takes good care of the chicks with little attention from the farmer.

Chick brooding with electricity is becoming so popular that many new methods of design and operation are being developed throughout the country. REA has just completed tests on the most simple design of hover-type indoor brooder yet devised. This brooder is made of wood; has a flat deck on top to be filled with chopped straw or hay, ground corn-cobs, sawdust, shavings, or other insulating material; and is heated with ordinary light bulbs controlled by a thermostat. Many poultry raisers may fear that the

(See Brooders, page 4, col. 3)

REA HOMEMAKER

Electric refrigeration becomes increasingly important in the Nation's defense effort. Conservation of food must go hand in hand with production. There is little difference in the final results between wasting food at home and torpedoing food ships on the Atlantic. Each cupful of left-over vegetables, each serving of meat, each tablespoon of milk, and the vitamin values in all foods are necessary to maintain a healthy Nation.

Civilian Duties

Wise use of the electric refrigerator and proper use of its facilities are civilian duties of each homemaker. The refrigerator should be defrosted regularly to maintain efficient operation. Defrost whenever $\frac{1}{4}$ inch of ice collects on the condenser. Careful storage of food is important. Place fresh vegetables in the crisper; store meat in the meat tray or directly under the evaporator unit; and wrap or place in covered dishes all foods without a natural covering.

Cook to Save Nutrients

The food-saving program includes cooking as well as refrigeration. To lose or wantonly destroy food values in the cooking process might almost be termed unpatriotic. Cooking should be done in such a way as to save the minerals and vitamins in the food. When electricity is used, controllable hot-plate and oven temperatures, available at the turn of the switch, make possible the preparation of food with only small quantities of water. The nutrients are thus retained, not poured down the drain or into the slop can.

Whole-Wheat Applesauce Cake

$\frac{3}{4}$ cup shortening	6 teaspoons baking powder
1 cup sugar	1 teaspoon cloves
4 eggs	$\frac{1}{4}$ teaspoon soda
1 cup molasses	2 cups applesauce
4 cups unsifted whole-wheat flour	1 cup raisins
1 teaspoon nutmeg	2 teaspoons cinnamon

Cream shortening; add sugar slowly, beating in well. Add well-beaten egg and beat until well blended. Add molasses. Sift together dry ingredients and add alternately with applesauce. Add raisins. Bake for 1 hour in greased, square baking pan in moderate oven at 250° F. Makes two 9-inch layers. (Chocolate butter frosting decorated with walnut halves makes this cake most attractive.)

CLARA O. NALE,
Home Economist, REA.

Whole Wheat

(Continued from page 2)

its "many times removed cousin," white flour. Whole-wheat cakes, with their full flavor and appetizing appearance, present a strong appeal to the epicure. The whole range of baked foods, from muffins and rolls to fancy pastries and cakes made with whole-wheat flour, have a new perfection of taste and food values. Sauces and gravies using it are even better—better tasting and better food.

Corn meal and cereals are important foods for health. New meal combinations with the use of cereal products make for variety. Whole wheat forms a delicious base for chowders, stews, and desserts. Even ready-to-eat cereals can be made at home.

School lunches, planned to include the vital elements contained in whole-grain flour, meal, and cereals, add to the nutritional health of young Americans, contributing to their increased vigor and alertness. The popularity of hot school lunches including foods made from whole-grain products has shown that whole-grain cereals are "in demand" with the boys and girls.

Brooders

(Continued from page 2)

bright lights will keep the chicks from getting normal required rest. This is far from true. The chicks readily adjust themselves to the lights; and show growth, vitality, and feathering results equal to those achieved by other brooders.

Lamb Brooding

Electric lights are now widely used during the rush at lambing time for convenience and better management. A light bulb and a reflector or other heating unit that insures fire safety from loose straw may be used profitably to warm and dry off the new arrival before giving him to his mother for permanent care. The entire pig brooder unit can be adapted by raising it to the proper height, or the lamp and reflector may be removed and used in a specially built lamb brooder.

Plans for constructing the pig and chick brooders can be obtained from all REA system offices, or direct from the Information Division, REA.

V. L. GREGG,
Equipment Specialist, REA.



LET ELECTRICITY
SHARPEN MOWER
BLADES, SCYTHES,
AXES, KNIVES,
PLOW-POINTS-



**A MOTOR-DRIVEN DRILL
USED WITH A FLEXIBLE SHAFT
DOES A BETTER JOB
QUICKER, EASIER**



REPAIR FARM EQUIPMENT WITH ELECTRICITY

FARM EQUIPMENT IS BECOMING MORE
EXPENSIVE - MAY BECOME IMPOSSIBLE
TO GET. A PORTABLE ELECTRIC MOTOR
CAN SAVE MONEY, TIME, EQUIPMENT.

R88Ec
v.1, no.7
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ELECTRO ECONOMY

RURAL ELECTRIFICATION ADMINISTRATION

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U.S. Department of Agriculture

Save Food, Fats and Equipment Now

October 1942

Cut Food Waste—In Planning, Cooking and Serving

R88Ec
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cop.1
“Waste No Food” is a timely slogan for every American household. The saving of a small portion of food here and there may not seem important, but these small bits multiplied by several million homes may supply food to sustain millions among our fighting allies.

Preventing waste of food is a family affair. Enlist the help of every member in being *food thrifty*.

“Waste No Food” begins with meal planning. Meals should be carefully thought out, not only that you may be sure your family is getting enough of the right kind of food, but also to make sure there is no waste in buying and in the use of left-overs. Planning by the week saves food as well as time and money.

Next, look to the preparation of meals. Check for the little but all-important leaks in valuable vitamins and minerals. Cook potatoes, carrots, and the like, in their skins. And don't forget that the outer leaves of cabbage and lettuce are even richer in these health-giving elements than the inner portions.

Use good cooking methods. Overcooking and use of too much water spells death to many vitamins and minerals and sends much food to the garbage pail for lack of flavor.

Dress up plain food with simple garnishes to give eye appeal. Remember, attractive service will go a long way in making war-time dishes more palatable.

Have servings adequate but no larger than will be eaten. Start “a clean plate” campaign in your household as one safeguard against waste of food.

Last, but very important, make good use of left-overs. With good planning and a dash of imagination, many wholesome, tempting dishes may be created from those “odds and ends” of food that formerly were discarded.

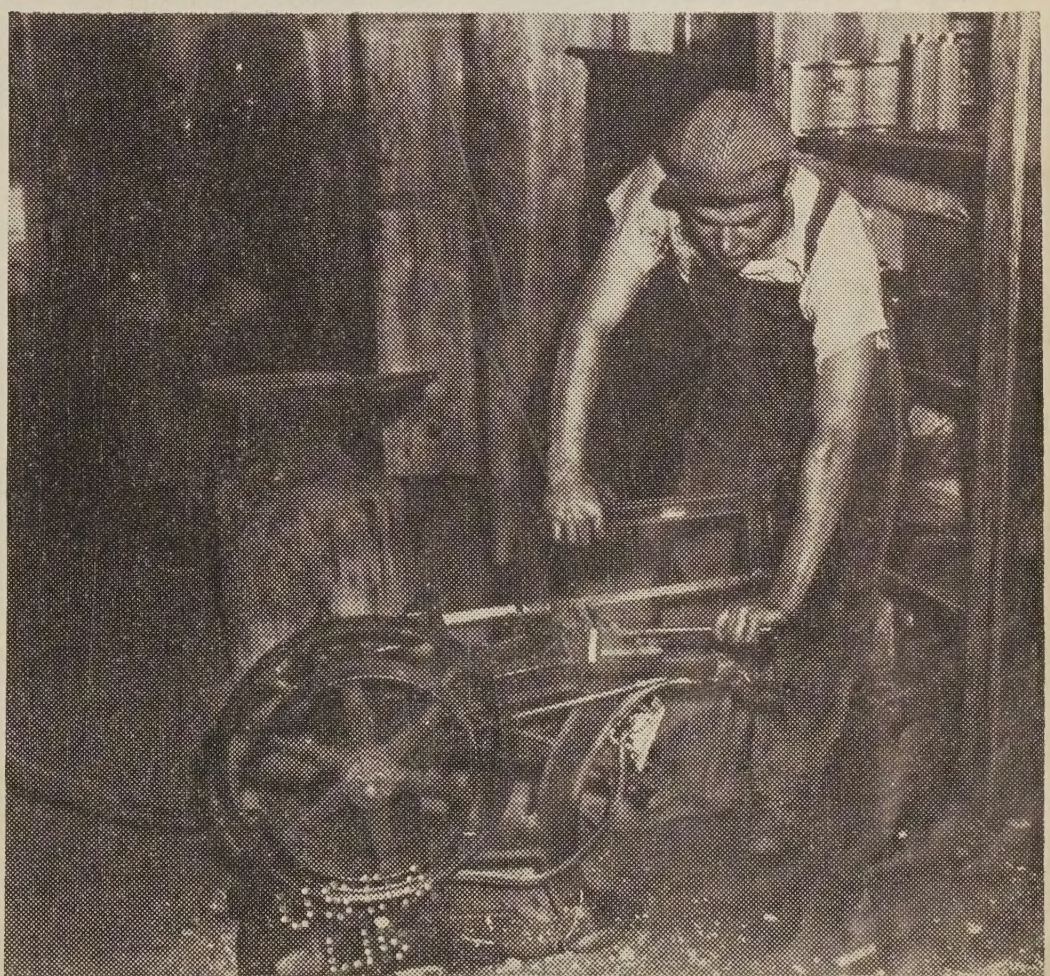
Your electric refrigerator, range, and other appliances can serve you well in this “Waste No Food” campaign. Enlist them for active service on the kitchen front.

Fix It For Victory . . . Farm Shops

Farm repair shops now are a greater need than ever before. The huge production goals farmers must meet require that their equipment be in best possible working order. But the labor shortage makes it difficult to have repairs done, and new machinery is costly and almost impossible to obtain. Farm repair shops, therefore, and well-equipped ones at that, are a prime necessity.

But farmers need not be without them. A little more of the same cooperation which made the REA cooperative possible, and farmers can have good repair shops, too. Farmers can pool their shop tools, and thus, together, equip first-class repair shops, where they can mend anything from the toaster in the farm home to the tractor in the field. Contributing members can assemble the equipment that needs repair during the winter months and have it in shape for work by the time the next season rolls around.

Try it. Get your neighbors together and see if by this sort of community “lend-lease” you do not obtain a sufficient number of tools
(Continued on page 4)



Why REA Co-ops Succeed

A few years ago critics of the REA program volunteered the opinion that the farmers would make a mess of running their own electric distribution systems if they ever tried it. Well, you farmers not only tried—you also proved that it could be done.

Farmers and other rural Americans have organized nearly 800 electric cooperatives. These are owned and controlled by the rural users themselves. They have built about 370,000 miles of line serving nearly a million rural families and industries. And they are meeting their payments on the hundreds of millions of dollars they have borrowed from their Government to do this job. As a member of an REA co-op you have a share in this achievement.

But it is no accident that REA co-ops generally manage to give good service at low rates, meet their interest and principal payments on their REA loans, and build up reserves for the future at the same time.

There are good reasons why you and your neighbors, and people in other rural communities, were able to do what the doubting Thomases said couldn't be done. One reason was your willingness to unite for a common purpose. Another reason is to be found in the underlying difference between an REA co-op and a private power company organized for profit. Every REA co-op member will do well to keep that difference in mind so he can explain to those who don't understand why the co-op way is the better way.

In the Co-op Corner you will find a comparison of the two kinds of enterprise. And if you have any doubt that what is said there about an REA co-op applies also to your own co-op, all you need to do is to read your REA co-op bylaws carefully. They are your co-op Bill of Rights.

Long Life for Your Linens

Take care of your household linens. Since the day of hand-woven real "honest-to-goodness" linen table cloths, towels, bedspreads, and the like, household linens have been the homemaker's pride. With war-time scarcities it will be hard to replace real linen and fine cotton fabrics. So take care of your present supply. This doesn't mean that you should stop using your "nice things," but instead it means exercising greater care to preserve their beauty and give them longer life.

Proper laundering tops the list of do's and don't's.

Do wash before they become very badly soiled.

Don't delay in removing stains. The same applies to the mending of rips and tears.

Don't use strong soap, and do follow the manufacturers' directions for best use of your electric washer. If it must be done by hand, avoid hard rubbing.

Do hang the articles smoothly on the clothes line. This prevents wrinkles

from drying in and makes ironing easier.

Do sprinkle evenly and have them fairly damp before ironing. Use a fairly hot iron. Remember, it is the contact of the hot iron with the dampened material that gets the wrinkles, not the pressure that you put on the iron.

Don't forget to change the manner of folding from time to time. Sharp creases in the same place weakens fabrics.

Sharing Household Equipment

Sharing equipment can be almost as important as salvaging iron, rubber, and fat.

The demand for increased food production on one hand and the shortage of equipment and farm labor on the other mean we must find a way of getting important farm and home jobs done with the fewest man-hours of labor. Sharing equipment is one way. It's the cooperative way. Many groups of farm women are already making good use of a Share-to-Save plan.

These suggestions may help you in working out a Share-to-Save plan for your community.

First, get together with your neighbors and take stock of the equipment that might be shared, such as washers, irons, vacuum cleaners, sewing machines, mills, and canning equipment. Then discuss ways of sharing it. Remember, equipment of this type is used only a few times a week. The time it is standing idle in your home, it could be saving time and labor for another family. This equipment is built to stand a lot of hard wear. So with proper care, it can be shared with two or three neighbors, without much additional wear.

Second, consider how you can best use such equipment. For two or three families it can be done easily in the home. Such equipment as irons, pressure cookers, vacuum cleaners can be passed around. For larger groups, a cooperative work center could easily be worked out using a centrally located room or building. Such a center would have many uses, with a minimum amount of equipment serving many families. For example, a small mill could easily supply whole-grain flour and cereals for several

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Take special care of pots, pans, small appliances, and other metal ware, for they can't be replaced during the war. These *cleaning tips* will make them last longer and look better.

Three Don't's for all metal pans:

1. Don't let empty pans stand over heat. Such overheating causes warping or often will melt aluminum.
2. Don't plunge hot pans in cold water. Cracking or warping will result.
3. Don't scrape burnt or stuck food from pans. Soak in warm water, then use fine abrasive to remove food.

Aluminum—Don't use strong alkaline soaps and cleaning powders. The chemical action of these alkaline products will darken or eat away the aluminum.

A simple and safe way to remove most stains is to boil a mild vinegar solution in the stained pan, 3 to 8 minutes (use 2 tablespoons to one quart of water). Then polish with fine steel wool. Make your aluminum refrigerator trays last longer by using wooden spoons in mixing and dipping frozen desserts.

Chromium Plate—Don't use metal polishes on a chromium finish, for it is a soft metal and wears off easily. You'll find that most small electric appliances usually have a chromium finish, so do give them the kind of care they deserve. They're easy to clean. Simply wipe off with a damp cloth, or in the case of pans, wash in mild soapy water, rinse, and dry well. **Tin**—Don't scour it. Remember the coating of tin is usually very thin, and scouring will only wear it off, exposing the metal base to rust. Always dry tinware carefully.

Iron—Wash iron ware in hot soapy water, and dry well to prevent rusting. If iron is to be stored for some time, rub it with an unsalted fat or oil. Wrap in paper and keep in a dry place.



Homemaker

SAVE YOUR WASTE FATS— SALVAGE FOR VICTORY

Save your waste fats. The need is urgent. Here's why. The war in the Pacific has greatly reduced our supply of vegetable fats from the Far East. That means we must find substitutes here at home. We must first use fats available efficiently as food. By doing so, what is saved day by day lessens the burden on commercial stocks. When all this has been done by the housewife, then what is left must be salvaged and turned in for war munitions.

Each year, around 2 billion pounds of fats have been wasted in American households. Think what the glycerine, for instance, from

that amount of fat would do in making bombs, gun powder, signal rockets, and dozens of other vital supplies for war, as well as civilian needs.

It doesn't take long to accumulate a pound of fat from the "leavings" in the frying pan, the roaster, and so on. In a *pound of fat* there's enough glycerine for *four anti-aircraft shells*. Remember that before you waste a single teaspoon of fat.

So, save your waste cooking fats. It's simple to do. Here's how.

1. *Kinds to save.*—Drippings from roast beef, ham, lamb, and poultry; drippings from broiled meats, steaks, chops, bacon; fats used in deep-fat frying, whether lard or vegetable; fats left from frying other foods.
2. *Pour it through a double layer of cheesecloth into a wide-mouth coffee or shortening can.* Be sure the can is clean and dry. It is important to strain the fat to remove meat particles and other foreign matter. Clarify if necessary.
3. *Cover can and store in refrigerator or cool place.* Rancidity reduces the amount of glycerine that can be extracted.
4. When you have made good use for food of all the fat that comes into your kitchen and you have collected a

pound or more for the war effort—*take it to your nearest butcher or grocer.* He'll weigh it, pay you the established price, and start it on its way to a war plant.

A TIME-SAVING MEAL

Skillet meals cooked in one pan and served in one dish, save time and money. Try this one.

Pork Chops and Rice

- 6 pork chops
- 2 tablespoons shortening
- 1½ teaspoons salt
- ¼ teaspoon pepper
- ¾ cup uncooked, washed rice
- 3 cups strained tomatoes
- 3 tablespoons chopped green pepper

Brown the chops in skillet containing the fat on high temperature. Season. Add rice and the other ingredients. Cover. As soon as steam comes from the vent, turn unit off or to a very low temperature and continue cooking 45 to 60 minutes without lifting cover. 6 servings.

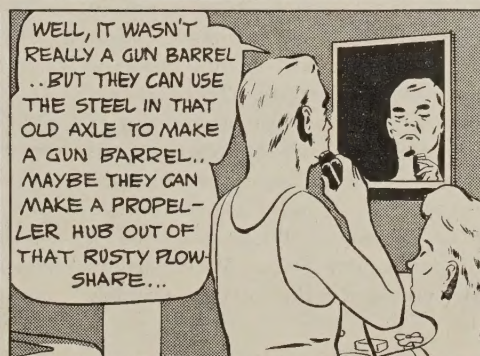
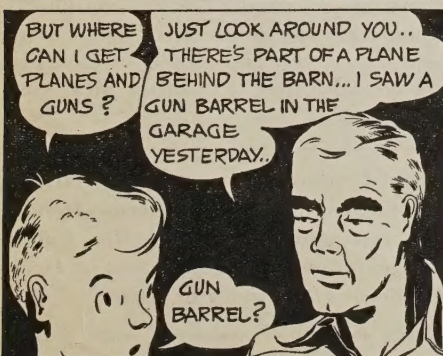
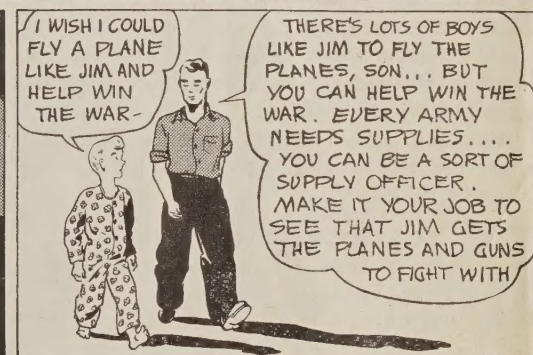
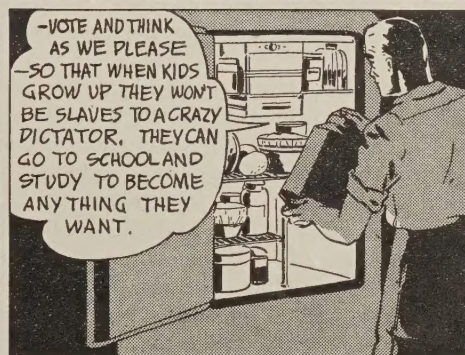
Serve with:

Cabbage slaw, whole-wheat rolls, and cherry dumplings. A nutritious and satisfying meal!

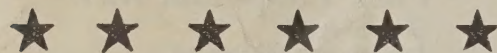
Cherry Dumplings

- 3 cups of red sour cherries, with juice.
- Sweeten to taste with honey, corn

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SALUTE!



Growing 25,000 to 30,000 turkeys annually is Mrs. Martha Walker's way of aiding the Food-for-Freedom program. And, as a member of the Lewis County Rural Electric Cooperative at Monticello, Mo., Mrs. Walker depends on electricity for her turkey farming.

Mrs. Walker, who with her late husband has operated "Happy Hill," a 380-acre farm in Lewis County for 40 years, holds a national record in the field of turkey growing. Besides raising turkeys for the market, she has bred a string of birds for high-class competition. During the past 20 years her show birds have brought home so many prizes that she has lost count. The prize ribbons would easily make two good-sized quilts, she modestly admits, and the trophies that cover the wall of her living room give evidence of her fame as a turkey grower.

She's given generously of her time and experience helping others with turkey problems. Recently she was appointed State turkey inspector for Missouri.

An electric pump furnishes water to all the various buildings, and soon each brooder house will be equipped with electric brooders. In her home, Mrs. Walker makes full use of her electric equipment to save the time and energy needed for her turkey business. Her washer, range, refrigerator, iron, and radio top the list as essential household aids.

Electricity in both tenant houses has also paid dividends, for it has enabled her to keep good efficient farm help. And the farm's various electrical tools compensate for the growing labor shortage.

For making electricity produce for Victory on the Home Front—A Salute to Martha Walker!

A TIME-SAVING MEAL

(Continued from page 3)

- sirup, or sugar.
- 2 cups bread flour
- 4 teaspoons baking powder
- $\frac{3}{4}$ teaspoon salt
- $\frac{3}{4}$ cup sugar
- 4 teaspoons shortening
- 1 cup milk

First.—Place cherries and juice in covered sauce pan and bring to simmering point on low heat. Combine other ingredients, as you would for biscuits, and add enough milk to make soft dough. Drop by tablespoons over the top of the cherry mixture. Cover and allow to steam on low heat 25 minutes. Serve hot or cold, with light cream. Six servings.

FIX IT FOR VICTORY . . . FARM SHOPS

(Continued from page 1)

to equip a first-class repair center. What one farmer doesn't have, another farmer may have.

First, you will need the proper place to house the shop. Keep the following points in mind when selecting a building:

The place should be large enough to accommodate all of the equipment and still have enough room to house the largest field machine with ample space in which to work. The minimum size should be 20 feet by 30 feet.

The shop should have a double door that can be closed in bad weather.

The building must be provided with heat. A 50-gallon oil drum will make a first-class stove. You can fix it up in the shop.

The shop must have electric power—3-wire 220-volt service, and a sufficient number of outlets and controls.

TOOLS AND EQUIPMENT NEEDED FOR MAINTENANCE AND REPAIR WORK

HAND TOOLS

Screw driver
Claw hammer, hatchet
Saws, crosscut and rip
Carpenter's square
Carpenter's level
Planes, jack and block
Sweep brace
Auger bits ($\frac{1}{8}$ " to 1" sizes by 16ths)
Expansion bit
Metal drill bits ($\frac{1}{16}$ " to 1" by 32ds)
Vises — machinist's and carpenter's
Anvil and wrecking bar
Ball-pein hammers, $\frac{1}{2}$ to 2 lb.
Forge (hand or electric blower)*
Tongs, pliers, swages
Dividers, rulers, tape measure
Cold chisels, wood chisels, punches

Hacksaw and supply of blades
Bolt cutters, end wrenches, Stillson wrenches
Workbench

POWER TOOLS

Grindstone*
Emery wheel*
Post drill*
Paint sprayer*
Band saw†
Table saw†
Planer or joiner†
Air compressor and hose†
Power hacksaw†

ELECTRIC EQUIPMENT

Portable motor, $\frac{1}{4}$ to $\frac{1}{2}$ HP*
Extension cable*
Electric soldering iron
Electric welder†
Portable electric drill†

Items marked with star are hand-powered tools which can be converted to electric power by the use of the portable electric motor.

Items marked with dagger will be needed for extensive repairs. With the exception of the welder, most equipment can be powered with a portable motor, reducing the total number of motors required.

A good plan before starting work is to make a survey of what machinery will need repairing and what repairs must be made. The survey should include an estimate of the kind, size, and amount of material that will be needed. With this information, a supply of nails, screws, bolts, lumber, and strap iron can be put in. This will avoid frequent trips to town for materials. It is also a good plan to tag each machine at the end of the season with a list of the things that will need attention. This will save time in making the survey. It is advisable to order needed parts at once. There may be a shortage of parts next year. When ordering, be sure you state the correct number of the part.

These shops, of course, will still need financing. Materials must be purchased, power will have to be paid for, and some pieces of equipment may still have to be purchased. Several ways of financing suggest themselves. The costs may be prorated among all who participate in the center. In this case, a nominal amount will have to be assessed against each one to form a treasury, and if any money remains, it will be prorated and returned to those who have paid it in. If, however, more cash should be required, another assessment will have to be made.

Or the facilities of the shop can be rented out by the hour or day, the charge set so as to repay for the cost of the power, and a proportionate amount for the other facilities used.

Still another way would be to get up a chart of charges for each job, and have everyone using the shop pay the standard price for the job done. The shop might also take in work for farmers who are not affiliated with the center. For that work, commercial rates should be charged.

Other methods may be suggested, but whichever plan or combination of plans is adopted, one thing will be assured—repairs will be made, at a cost far less and with greater certainty than they would be at commercial shops.

This is one more place where cooperation will solve a problem.

SHARING HOUSEHOLD EQUIPMENT

(Continued from page 2)

families at little cost. Think what it would mean to have such a place equipped with sewing machines, cutting tables, and other equipment for aid in making and caring for clothes.

Third, comes the financing of the center. There are a number of ways of doing it. A small membership fee might be paid by each family participating, or they might pay a small fee each time they use the equipment. By adding up the various costs, such as for heat, water, electricity, care and repair of equipment, the group can arrive at the amount each should pay for the privilege of using the center.

Fourth, consider schedules for using this equipment, that will make for efficiency and interfere least with other household duties.

Last, a word about care and repair. Regardless of the scope of your Share-to-Save plan, be sure that everyone learns the proper way of using and caring for the equipment.

Remember, every hour saved by sharing your equipment can be devoted to food production, conservation, and other vital war-time programs.

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